REMEDIAL INVESTIGATION REPORT

Areas 1, 1A, 2, and 5

UOP SITE

EAST RUTHERFORD, NEW JERSEY

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Remedial Investigation Report
AREAS 1, 1A, 2 and 5
UOP Site
East Rutherford, New Jersey

Executive Summary

The Remedial Investigation was performed by UOP Inc. and its contractors to evaluate soil and ground-water conditions at its 75-acre property in East Rutherford, New Jersey. The site was operated by Trubeck Laboratories from 1932 to 1960 and by UOP Inc. from 1960 until operations ceased in 1979; all buildings were demolished and underground tanks removed in 1980.

Because the environmental conditions and the investigatory needs vary in different parts of the property, the Remedial Investigation has been divided into smaller study areas:

Area 1:	North central part of the property
Area 1A:	Central part of the property
Area 2:	Western part of the property (between the main railroad tracks and New Jersey Route 17)
Area 3:	Wastewater lagoons
Area 4:	Surface-water channels
Area 5:	Area east of Areas 1 and 1A

This report covers Areas 1, 1A, 2, and 5; as prescribed by New Jersey Administrative Consent Order, information and discussions for Areas 3 and 4 have and will be presented in other documents.

During the years of operation, routine handling of raw materials and wastes resulted in the release of constituents, primarily organics, to the soil. Some of these residues have leached into the subsurface and entered the shallow ground water. Because ground water discharges into surface water drainage channels, some of the contamination has reached the surface water and the underlying sediments.

Three major phases of investigatory work have been performed by Geraghty & Miller, Inc. to characterize the nature and extent of residues in soil and water. During 1983-84, results of well, soil, and stream testing provided an initial assessment of the site. During 1984-85, additional wells were installed to permit a more refined mapping of the water table and a better definition of ground-water plumes of dissolved organics. During 1986, the third phase of investigation focused on determining soil quality and the likelihood that soil contaminants are materially affecting ground-water quality. In addition, the

1986 work provided a much more complete assessment of soil and ground-water conditions in Areas 1A and 5.

The major findings of the three phases of work are as follows:

1. The shallow geologic system from land surface downward is composed of 1 to 8 ft of fill, 1 to 5 ft of meadow mat (in most places), and over 100 ft of layered clay.

2. All shallow geologic units have low permeability, and water-table gradients are gentle. Therefore, ground water moves very slowly across the site, typically 5 ft per year, and discharges to surface water.

3. The water levels in deep wells are generally higher than in the shallow wells, because the area is a ground-water discharge zone in the Hackensack River Basin.

4. Consequently, the net upward flow of ground water protects deeper wells and aquifers in the area from site contamination.

5. Volatile compounds are the prominent group of organics dissolved in ground water in the uppermost (shallow) aquifer. They are predominantly present under parts of Areas 1, 1A, and 2 and notably absent under Area 5.

6. Base/neutral and acid-extractable organic compounds are present in shallow ground water at some locations, but at generally much lower concentrations than the volatile organic compounds.

7. The detection of polychlorinated biphenyls (PCBs) in ground water is an uncommon occurrence (5 detections in 37 samples), and pesticides have never been detected.

8. Except for manganese, metals are present in ground water under the site only at low levels (using federal drinking water standards as a point of reference). Manganese is not an expected process or waste metal, and may exist naturally at high levels in the soil and fill.

9. Volatile, base/neutral and acid-extractable organic compounds are present in soil samples from many borings in Areas 1, 1A, and 2.

10. Base/neutral extractable organic compounds and polychlorinated biphenyls (PCBs) were detected in many soil samples taken in Area 5.

11. The concentrations and identities of chemicals in the soil rarely correspond with those in the ground water immediately below. Thus, the investigations have not shown substantial source areas in soil which currently have a measurable impact on the underlying ground water.

12. A magnetometer survey and follow-up verification by trenching in Area 5 showed that the area is not a repository for buried drums.

The variable presence of a wide variety of organic and inorganic constituents in soil and water provides insight into the mechanism of contamination. The data support the judgment that many small releases, rather than a few major ones, have occurred during the decades of plant operation. No finite number of borings or wells can be expected to fully characterize the subsurface conditions. However, the available data are sufficient to support the evaluations required in the risk assessment and the feasibility study.

Remedial Investigation Report
Areas 1, 1A, 2, and 5
UOP Site
East Rutherford, New Jersey

1.0 INTRODUCTION

1.1 Regulatory Context

The site under study (Figure 1) appears on the USEPA National Priority List (40 CFR 300) and is subject to provisions of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA).

This Remedial Investigation report has been prepared by Geraghty & Miller, Inc. for UOP, Inc. and fulfills a requirement of the May 23, 1986 Administrative Consent Order (ACO) signed by UOP Inc. and the New Jersey Department of Environmental Protection (NJDEP). The work, which was performed in accordance with the September 5, 1986 Work Plan (Geraghty & Miller, Inc. and ERT, 1986), complements earlier phases of investigation, also performed under consent order and documented in Geraghty & Miller, Inc. reports prepared during 1984 and 1985 (Geraghty & Miller, Inc., 1984; Geraghty & Miller, Inc., 1985).

Because of the varying character and level of knowledge for different parts of the property, the study has been divided into six areas:

Area 1: North Central part of property (4.5 acres).

Area 1A: Central part of property (2.5 acres).

Area 2: Western part of property (between the main railroad tracks and New Jersey Route 17), (3 acres).

Area 3: Wastewater lagoons.

Area 4: Surface water channels.

Area 5: Area east of Areas 1 and 1A (7 acres).

For the approximate boundaries of each area, refer to Figure 2.

Results of investigations conducted in all areas during 1983-1985 appear in reports referenced previously (Geraghty & Miller, Inc. 1984; Geraghty & Miller, Inc., 1985). During September to December 1986, investigations complementing the earlier work were performed. The new results for Areas 1, 1A, 2, and 5 appear in this report, and various tables and figures that follow summarize data from all phases. Information related to Areas 3 and 4 appears in other documents as prescribed in the May 23, 1986 ACO.

1.2 Site Background Information

The UOP site comprises 75 acres in East Rutherford, New Jersey (Figure 1). It is bounded on the north primarily by a compressed gas facility, on the east by Berrys Creek, on the south by commercial properties, and on the west by New Jersey Route 17. The property is flat (elevations vary from approximately 4 to 9 ft above mean sea level) and

partly covered by tidal salt marsh. A system of natural and artificial surface-water channels crosses the property to allow drainage; this system is tidal and flows into Berrys Creek, a tributary of the Hackensack River. Figure 2 shows the site's physiographic features.

The property was developed in 1932 by Trubeck Laboratories, which built an aroma chemicals laboratory. Solvent recovery and handling of waste chemicals began in 1955; Trubeck constructed a waste treatment plant in 1956 and wastewater holding lagoons in 1959.

UOP Inc. acquired the property and facilities in 1960 to diversify its activities into the chemical products area. The use of the on-site waste treatment system, including the lagoons, was discontinued in 1971 when the plant was connected to the municipal sewer system. UOP Inc. terminated operations in 1979, and all structures, except concrete slabs and a pipe bridge over the railroad tracks, were demolished during 1980.

The only wastes that have been identified on the site are

1. Wastewater treatment sludges in two lagoons (investigation Area 3).
2. Demolition debris and other general trash, located primarily in the eastern portion of investigation Area 5. The debris and trash are covered or spread thinly so that their presence is not an

obvious feature of the site either during general inspection or on aerial photographs.

There have been no formal public meetings related to the site, due in part to low public interest or concern, and investigations have been performed with little notice from passersby.

There are, as yet, no plans for future use of the site.

1.3 Nature and Extent of Problem

As described in earlier reports (Geraghty & Miller, Inc., 1984; Geraghty & Miller, Inc., 1985) and in the discussions that follow, organic compounds in soil, sediment, and ground water constitute the prominent contaminants of the site. No buildings remain on site, so decontamination of structures is not an issue. Wastes are present in the waste-water lagoons (study Area 3); the plan for handling these materials is beyond the scope of this document. There is no evidence or expectation that the demolition debris and general trash are hazardous; therefore, these materials are not deemed to be of concern. Underground tanks used in the past were removed during the 1980 demolition. No explosive or radioactive materials were ever reported to have been stored or used on the site.

Organic residues, predominantly volatile, are present in ground water, which discharges at a slow rate to adjacent surface-water bodies. Extractable organic compounds (base/neutral and acid extractable groups) are also present in ground water in lesser amounts.

The shallow soils also contain organic residues; concentrations vary considerably from one location to another. As in the case of ground water, volatile organic compounds represent the majority of organics in many locations where organics were detected. Extractable compounds, including polychlorinated biphenyls (PCBs) are also present in some of the soil samples. Little environmental release of the compounds occurs from the soil except for possible slow leaching into the ground-water system.

Overall, the rate of release of chemicals from the site is slow due to chemical attenuation (biodegradation and adsorption of constituents onto soils) and the low rate of ground-water flow. The consequences of such releases are evaluated in a separate risk assessment prepared for the site (ERT, 1987). Shallow ground water under the site flows toward surface-water channels. Because the area is located within a ground-water discharge zone in the Hackensack River Basin, water levels in deep site wells are generally higher than they are in shallow wells. The resulting upward

movement of ground water prevents movement of chemical constituents from the site into deeper usable aquifers. The low levels of VOC contamination detected in the deep zone is evidently from sources other than the UOP property, both because of the upward movement of ground water and because many of the prominent chemicals detected in the shallow zone were not detected in the deep zone. The chemical imprint, that is, the array of compounds and their relative proportions, in the two zones is different.

Site cleanup has taken the form of building demolition, tank emptying and removal, and abandonment of plant production wells.

1.4 Investigation Summary

Investigation work in Areas 1, 1A, 2, and 5 has been performed in three phases during 1983-1986:

Phase I

Fieldwork Performed:	November 1983 to March 1984
Installations:	16 wells 5 staff gauges 7 soil borings
Data Developed:	- Water-table configuration - Vertical head relationships - Surface-water flow patterns

- Quality of ground water, surface water, soils, and surface--water sediments

Data Summarized and Interpreted: "Investigation of Ground-Water Conditions on Universal Oil Products, Inc.'s Site, East Rutherford, New Jersey, May 1984" (Geraghty & Miller, Inc., 1984).

Phase II

Field Work Performed: October 1984 to February 1985

Installations: 15 wells

Data Developed:
- Further characterization of presence of soil, sediment, and ground-water contamination
- Sludge quality profile in waste-water lagoons

Data Summarized and Interpreted: "Phase II Investigation, Water and Soil Conditions, UOP Site, East Rutherford, New Jersey, May 1985" (Geraghty & Miller, Inc. 1985)

Phase III

Field Work Performed: March 1986 to December 1986

Installations:
5 wells
40 soil borings
Magnetometer survey, Area 5
In situ permeability (slug) tests
8 trenches

Data Developed:	- Characterization of soils as possible sources of ground-water contamination in Areas 1 and 2 - Further characterization of Areas 1A and 5 - Further assessment of site hydraulic characteristics
Data Summarized and Interpreted:	This report

1.5 Overview of Report

The remainder of this report is divided into four chapters, which are summarized below.

Chapter 2 Site Features Investigation

Provides a description of the site with respect to surrounding land use, populations, and nearby ground-water and surface-water use.

Chapter 3 Hazardous Substances Investigation

No hazardous wastes have been found in the study area (Areas 1, 1A, 2, and 5). Data and information are provided to support this finding. However, hazardous constituents have been found in onsite soil and water samples. The information related to these occurrences is included in Chapter 4.

Chapter 4 Hydrogeologic Investigation

The results of the most recent data on soils, geology, and ground water are provided and discussed in the

context of existing data. Information includes geologic descriptions, results of geophysical tests, and laboratory results on soil and ground-water samples.

Chapter 5 Air Investigation

Air data obtained during field activities are summarized.

Two chapters recommended by EPA for inclusion in the generic Remedial Investigation report are not included in this volume for the following reasons:

Surface-Water Investigation: There is no surface water in study Areas 1, 1A, 2, and 5. Surface water is designated as Study Area 4 and will be reported on by ERT in separate documents.

Public Health and Environmental Concerns: ERT has prepared a separate risk assessment report covering this subject.

2.0 Site Features Investigation

2.1 Demography

The site is located in East Rutherford (1985 estimated population: 7,865) in Bergen County, New Jersey. (ODEA, 1986). The county population estimate in 1985 was 841,277. A part of the county's property lies within the Hackensack Meadowlands District, which is administered, in

part, by the Hackensack Meadowlands Development Commission (HMDC).

The portion of the UOP site east of the main railroad right-of-way (most of the property) falls under HMDC jurisdiction. The HMDC portion of East Rutherford consists mostly of tidal marsh and the New Jersey Sports and Exposition Authority property and is, therefore, sparsely populated (1980 population in HMDC portion of East Rutherford: 140).

2.2 Land Use

The UOP property is surrounded variously by undeveloped tidal marshes, highways, and commercial and light industrial properties. Immediately to the north is the Matheson Air Products facility, a truck and car repair shop, and a hotel (under construction). Further north are the Velsico, Sinko, and Diamond Shamrock facilities, which are currently under investigation as possible sources of contamination of Berrys Creek. To the east are Berrys Creek and tidal marshes. To the south are commercial properties. To the west is New Jersey Route 17. West of Route 17 are a Becton Dickinson manufacturing facility and commercial properties.

2.3 Natural Resources

2.3.1 Introduction

The UOP site occupies part of the Berrys Creek drainage basin. A comprehensive Environmental Impact Statement (EIS) was prepared for the adjacent New Jersey Sports and Exposition Complex (Jack McCormick and Associates, 1978). The following descriptions of plant, animal and water resources are derived from that EIS.

2.3.2 Flora

A tidal marshland of approximately 160 acres adjacent to Berrys Creek is covered by dense stands of common reed grass; water-hemp forms a sparse, discontinuous understory. Pure stands of water hemp, narrow-leaved cattail and salt reed-grass are scattered throughout the tidal marsh, particularly along the streams. The ground surface in the marsh has an average elevation of about 3.3 ft above mean sea level and is flooded by 2 or more inches of water at high tide; it drains completely at low tide.

2.3.3. Fauna

Sixty-five kinds of birds, including 26 nesting species, many mammals, one amphibian, and three reptiles are known to inhabit or visit the Berrys Creek area. None of

these are nationally or regionally rare or endangered species.

The most common breeding birds in the marsh area are mallard, black duck, blue-winged teal, common gallinule, and ring-necked pheasant. Spotted sandpipers breed near mudflats along ditches, and numerous kinds of songbirds breed in the area.

Many mammals are present including the house mouse, muskrat, Norway rat, long-tailed weasel, and rabbit. Other mammals observed less commonly in the Meadowlands area include the opossum, striped skunk, raccoon, gray fox, and red fox. Wild dogs and feral house cats are also known to be present.

Northern leopard frogs, painted turtles and snapping turtles are common in the tidal marshes.

2.3.4 Water Resources

The surface water on site and in adjacent Berrys Creek is brackish. Average summer salinities in Berrys Creek during 1983-1986 at Paterson Plank Road (just north and east of the UOP Site) range from 1150 mg/L in 1984 to 5300 mg/L in 1986 (Cheng, 1987). Undiluted sea water has a salinity of 33,000 mg/L.

2.4 Climatology

The Hackensack River Basin has a temperate climate controlled by polar continental air masses in the winter and tropical air masses in the summer. The heaviest rains are coastal storms of tropical origin. The following details of climatology are presented in Carswell (1976).

The average annual precipitation is 45 inches with a range of 26 to 61 inches. The mean annual temperature is 53°F; January is the coldest month (mean of 32°F) and July the warmest (mean of 76°F). The growing season averages 185 days with the average first killing frost on October 21 and the last killing frost on April 19. Prevailing winds are from the northwest from October to April and from the southwest from April to October.

3.0 Hazardous Substances Investigation

Hazardous wastes have not been found in Study Areas 1, 1A, 2, or 5 which are the focus of this report. The waste present in these areas are substantially demolition debris from the 1980 plant razing and are located in the eastern section of Area 5. NJDEP personnel were present at various times during the demolition. Reaction vessels, storage containers, and piping that may have contained hazardous residues were cleaned out and removed from the

buildings before demolition began. Process wastes and the associated equipment were disposed of off-site at approved facilities. Therefore, the remaining on-site rubble is not expected to be hazardous.

4.0 Hydrogeologic Investigation

4.1 Introduction

Hydrogeologic investigations in Areas 1, 1A, 2, and 5 have been performed in three phases.

Phase I: Soil borings, wells and staff gauges were installed during 1983-1984; the results are reported and interpreted in Geraghty & Miller, Inc. (1984).

Phase II: Wells were installed during 1984-1985; the results are reported and interpreted in Geraghty & Miller, Inc. (1985).

Phase III: Work performed during March to December 1986 included a magnetometer survey in Areas 1A and 5, in situ permeability (slug) tests in selected wells, soil borings, excavations, and ground-water wells. The results and the testing are reported in this chapter.

4.2 Investigatory Methodology

The methodology employed for the Phase I and II work is described in the reports referenced above and summarized in Appendix A. Procedures followed for the Phase III (1986) work are included in detail in the September 5, 1986 Work Plan and summarized as appropriate in the following text.

4.3 Magnetometer Survey and Trench Confirmation, Areas 1A and 5

Old aerial photographs show the surface storage of drums in a small part of what is now designated Area 5. The issue of whether buried drums remain on the site was addressed by a magnetometer survey conducted during March 24-29, 1986 in Area 5 and the eastern part of Area 1A. Survey readings were made at approximately 1,000 nodes arrayed on a grid with 20 ft spacings. A complete report on the magnetometer survey is included in Appendix B.

The data indicated the presence of a number of magnetic anomalies. Trenches were excavated by backhoe through seven major anomalies to determine the causes of the magnetic features. Details of the backhoe verification are included in an October 1986 Geraghty & Miller, Inc. report (Appendix B) which contains logs of all trenches and a map showing the locations of all activities.

The magnetometer survey, as field-verified by trenching, successfully detected buried metal. Metallic debris, primarily from the facility's demolition, was found at Anomalies 1,2,3,7,9, and 10. Buried metal was not found at Anomaly 6; the reinforcing steel rods in adjacent concrete slabs are probably responsible for the magnetic signal at that location. In addition to demolition metal at Anomaly 7, rusted lids and rusted, smashed fragments of approximately 10 to 12 drums were found. Only one drum was intact enough to hold materials and it was approximately one-third full of a solid material, which will be tested prior to disposal.

The results of the magnetometer survey and trench verification show that Area 5 was not a drum disposal area. The few drums that were found at one location were, with one exception, fragmented. An inspection of the soil below the drum fragments in most cases showed no indication of past releases of contaminants, that is, there were no unusual colors or stains. At a few locations where contamination was evident (for example, the liquid with oily sheen in Anomaly 7), there is no evidence that the contamination was caused by or associated with the nearby drum fragments.

No hazardous waste disposal area was found in Area 5. Therefore, the follow-up investigation involved the same

strategy as applied to other parts of the site: Soil borings and wells were installed, and soil and water samples were analyzed by an NJDEP-certified laboratory.

4.4 Shallow Soils Investigation

During October and November 1986, 39 soil borings were drilled and samples collected in Areas 1, 1A, 2, and 5. The sampling program was designed to augment existing data in Areas 1 and 2 and provide, for the first time, a substantial data base on the quality of shallow soils in Areas 1A and 5.

Samples were collected by split-spoon sampler at two depths as prescribed in the September 5, 1986 work plan: (1) 0-2 ft below land surface and (2) 0-2 feet below the water table. Samples were packed into jars with Teflon cap liners and shipped under chain-of-custody control to ERCO, a division of Enseco in Cambridge, Massachusetts.

Results of the excavations and the soil borings confirm the data on shallow geology collected during the Phase I and Phase II investigations. The stratigraphic sequence of fill and meadow mat overlying silty, sandy clay to varved clay was observed at most trench and drilling locations.

The fill thickness ranges from 1 to 8 ft and consists primarily of silt, sand and gravel as well as glass, metal, wood, and brick debris. In the area between Wells 25I and 8I, the fill is composed almost entirely of rubble derived from the razing of site buildings in 1980. Lying beneath the fill is a layer of meadow mat, which is fairly continuous and ranges from 1 to 5 ft thick.

The soil quality data are summarized in the following tables and figures:

Table 1:	Organic Compounds listed by concentration rank, 1986.
Table 2:	Volatile organic compounds in shallow soils, 1986 samples
Table 3:	Base/neutral and acid extractable compounds in shallow soils, 1986 samples
Table 4:	Pesticides and PCBs in shallow soils, 1986 samples
Figure 3:	Volatile organic compounds in soils, 1983-1986
Figure 4:	Base/neutral and acid extractable organic compounds in soils, 1983-1986
Figure 5:	Polychlorinated biphenyls (PCBs) in Soils, 1986
Figure 10:	Total Volatile Organic Compounds in Soil, 1983-1986 Data
Figure 11:	Total Base/Neutral and Acid Extractable Organic Compounds in Soil, 1983-1986 Data
Figure 12:	Total Polychlorinated Biphenyls in Soil, 1986 Data

A discussion for each of the major groups of constituents is provided below.

4.4.1 Volatile Organic Compounds in Shallow Soils

Volatile organic compounds (VOCs) are prominent in many soil samples. Their highest occurrence, as shown in Tables 1 and 2, and Figures 3 and 10, are in Areas 1, 1A, and 2. VOCs have high vapor pressures and low-to-moderate aqueous solubility. As such, their presence in the shallowest (0-2 ft below land surface) samples would be expected to diminish with time through vaporization to the atmosphere and downward leaching. The field data confirm these physical suppositions; in most cases, the deeper of the two soil samples in each boring, typically 4-6 ft below land surface (0-2 ft below the water table), has a far higher VOC total.

In addition to VOC totals, Figure 3 displays the single compound with the highest concentration in each sample. Among the most prominent compounds are toluene, xylene, chlorobenzene, and benzene. Acetone occurred prominently in several soil samples; however, its actual presence in the field is questionable because this compound appeared in various field and laboratory blanks.

Areas 1, 1A, and 2 coincide with the former active processing part of the facility and, as stated in earlier reports (Geraghty & Miller, Inc., 1984; Geraghty & Miller, Inc., 1985), the presence of VOCs in both soil and ground water in these areas appears to have resulted from decades of materials and waste handling, spills, and leaks. The wide range of concentrations and differences in compounds from sample to sample, including borings located next to each other, point to many small areas with residues in soil, rather than one large source area.

4.4.2 Base/Neutral and Acid Extractable Compounds in Shallow Soils

Several different base/neutral and acid extractable (B/N/A) organic compounds are present at various locations. The compounds in highest concentration are benzoic acid, bis(2-ethylhexyl) phthalate, chlorinated benzenes, polynuclear aromatic hydrocarbons, and 4-methylphenol. The totals for B/N/A compounds in all phases of work and the compound with the highest concentration in each sample are shown in Figure 4; the occurrence of B/N/A compounds in cross-sectional view is shown in Figure 11. A 1986 data summary for B/N/A compounds appears in Table 3.

With the exception of benzoic acid, the prominent B/N/A compounds have low solubilities and, therefore, low

mobilities in the soil environment. In addition, they have low vapor pressures, so not much is lost to the atmosphere by vaporization. As a result of these solubility and vapor pressure properties, the B/N/A compounds are distributed more evenly in the soil than are the VOC compounds, which are generally higher in concentration in the deep sample.

The prominent B/N/A compounds are chemically diverse, which suggests that their presence in soils at scattered locations resulted from many activities over the years. For example, benzoic acid is probably a raw material or by-product related to the production of benzyl alcohol and amyl salicylate during 1960-1979. Phthalates [including bis-(2-ethylhexyl)phthalate found at this site] are common industrial chemicals with many uses; they are often added to polymeric plastics to change their physical properties. No information is available on the use or handling practices of phthalates at this facility.

Polynuclear aromatic hydrocarbons (PAHs) are common in combustion products and asphalt and tar. They also occur in soils from airborne combustion particulates.

4.4.3 Pesticides and PCBs in Shallow Soils

Priority Pollutant pesticides have never been an issue at this site and the extensive data reported for the

1986 round of sampling confirms this. In contrast, data collected during Phase II show that polychlorinated biphenyls (PCBs) are present in surface-water sediments. PCB analyses of shallow soils were performed for the first time in 1986; PCBs were also detected in certain soils that are not associated with surface-water channels.

Table 4 lists the 1986 data for pesticides and PCBs in soil, and Figures 5 and 12 show the locations of the PCBs. The table indicates that Aroclor 1248, the trade name for a certain mixture of PCBs, is the predominant constituent; the highest concentration was 480 mg/kg (ppm) in the shallow sample at Boring B5-7. The figures show that PCBs are present in widely scattered borings in Area 5 and at generally lower concentrations in various borings in Area 2. Soils in Areas 1 and 1A are free of PCB contamination.

If the PCBs detected in soil are from on-site sources, they may be related to handling of heat-exchange fluids containing PCBs that were used in industrial double boilers. These double boilers were located in Area 2, so their presence in Area 2 soils may not be surprising. The presence of PCBs in Area 5 is unexplained. The highest concentrations are generally in the shallow samples from each borehole, which is to be expected, considering the very low aqueous solubility and very low leaching and migration potential for PCBs.

4.4.4 Non-Priority Pollutant Organic Compounds in Soil

A variety of volatile and extractable organic compounds were detected in soils during the 1986 investigation. Those that are Priority Pollutants have been listed in Tables 2, 3, and 4. Non-Priority Pollutant compounds have also been detected, and their concentrations have been estimated based on the response of internal instrumental standards. The laboratory sheets that list these compounds are included in Appendix F.

Only 12 non-Priority Pollutant compounds were detected in Area 1 and usually at low levels (below 1 ppm). Most of the compounds, including the one at highest concentration (34 ppm) are derivatives of benzene. During 1960-1979, the period of UOP operation, two benzene derivatives, benzyl alcohol and amyl salicylate, were handled in large quantities. Off-specification variants and environmental degradation products of these two compounds are numerous and include many of the extra-peak compounds listed in Appendix F.

Area 1A has a greater number of non-Priority Pollutant compounds (40 identified constituents) and at some locations, especially at Boring B1A-2, the concentrations

exceed 1000 ppm. As in the case of Area 1, the compounds in highest concentration are derivatives of benzene.

In Area 2, only five different constituents were reported by the laboratory and the concentrations were low (the peak value was 5.2 ppm). As in Areas 1 and 1A, benzene derivatives predominate.

Area 5 has 27 identified non-Priority Pollutant compounds. The structures of these chemicals are diverse and different from those identified in former production areas (Areas 1, 1A, and 2). The most prominent non-Priority Pollutant is 4-hydroxy-4-methyl-2-pentanone which is a known and expected artifact of the acetone extraction procedure used by the laboratory as part of Contract Laboratory Program protocols. Other compounds include variants of groups of already identified Priority Pollutants: polynuclear aromatic hydrocarbons, polychlorinated biphenyls, and phthalates.

4.4.5 Metals and Cyanides in Shallow Soils

Table 5 lists the occurrence of arsenic, cadmium, chromium, cyanide, lead, manganese, mercury, and zinc in samples from 1986 borings. Table 6 provides a broad overview of all soil metals data for 1983-1986, including the range, mean, and median values for each study area (Areas 1, 1A, 2, and 5).

As Table 6 shows, arsenic concentrations are low throughout the study area; the range is <3 to 45 mg/kg. Cadmium values are generally low, with individual means for Areas 1, 1A, 2, and 5 below 3 mg/kg; the highest values are in Area 5 (up to 34 mg/kg). Although median chromium concentrations in soil for all four study areas are below 100 mg/kg, five samples have concentrations above 1000 mg/kg; four of these are in Area 5.

Cyanide values range from <0.18 to 79 mg/kg; however, only three values exceed 12 mg/kg. As with chromium, median lead values for the four areas are all below 100 mg/kg. However, three samples, all from Area 5, had lead concentrations of 1000 mg/kg or more.

Manganese is a common element in many soils; values in the study area range from 38 to 4730 mg/kg. Separate mean and medians for the Areas 1, 1A, 2, and 5 vary only by a factor of two, indicating comparable overall soil quality with respect to manganese in the four study areas. High manganese levels in soil appears to represent background conditions.

Mercury values range from <0.05 to 190 mg/kg; the second and third highest values are 15 and 13 mg/kg. The

mean and median in Area 5 are the highest among the study areas. Zinc concentrations range from 5.7 to 2200 mg/kg.

In summary, metals concentration vary widely and the highest values for the various constituents do not occur at the same location. However, many elements have their highest values in the northern part of Area 5, particularly at Borings B5-2, B5-11, and B5-13. Industrial or disposal activities in this part of Area 5 may have augmented the concentrations of metals already in the fill. As in the case of the organic constituents, the highest metal concentrations are scattered, so one or a few local source areas are not indicated.

4.5 Ground-Water Investigation

4.5.1 Introduction

During 1986, five ground-water monitoring wells were installed according to protocols listed in the September 5, 1986 Work Plan and summarized in Appendix A. Two wells were placed in Area 1A (Wells 27I and 28I) and three were placed in Area 5 (Wells 29I, 30I, and 31I). Their locations are shown in Figure 2, along with the locations of other monitoring wells at the facility. Construction details for all wells appear in Table 7.

The wells in Area 1A were installed to further monitor the quality of ground water as it moves toward the drainage channel to the south. The wells in Area 5 were installed to augment the wells already present there, with special focus on locations where surface features and soil investigations indicated possible contaminant sources.

4.5.2 Lithology

The logs for the five 1986 wells (Appendix C) confirm the lithologic descriptions obtained during the Phase I and Phase II investigations. Fill ranges from 1 to 8 ft thick and is underlain at most locations by an organic layer called meadow mat, which is 1-5 ft thick. Meadow mat is absent where former or existing drainage channels cut across the property.

Clay is present beneath the meadow mat, beginning at a depth of about 8 to 10 ft. The clay unit has thin layers of silt and fine sand in its upper reaches and grades downward into a dense, more competent body of clay with thin layers or varves of silt.

Lying beneath the varved clay is a layer of coarser-grained deposits of variable thickness. Well logs indicate that the deposits are predominantly sand and gravel.

Below the sand and gravel is the Brunswick Formation which is 150-200 ft below land surface at the UOP site and, according to Carswell (1967), is composed largely of reddish-brown mudstone in this portion of the Hackensack River basin.

4.5.3 Site Hydrogeology

The Phase III work performed to characterize site hydrogeology included inspection of geologic materials during drilling, in situ permeability (slug) testing, and the measurement of water levels.

The materials penetrated during the well drilling include fine-grained silts and sands, and dense layers of peat. On the basis of their appearance, these materials would be expected to have low permeabilities and, therefore, to transmit water poorly. This observation was confirmed by in situ permeability testing at seven wells during November 1986. Permeabilities in the screened zone (typically 1 to 18 ft below land surface) range from 0.0037 ft/day (1.3×10^{-6} cm/sec) to 1.58 ft/day (5.6×10^{-4} cm/sec) (Table 8). Details of the testing procedure are included in Appendix D.

On the basis of Phase I work, the permeability measured for the underlying clay unit ranged from 8.6×10^{-3} cm/sec for the silty, sandy layers to 1.2×10^{-7} cm/sec for

the underlying body of varved clay which is over 100 ft thick.

Information on the occurrence and movement of ground water across the site was obtained from the measurement of water levels in 35 new and existing monitoring wells. Comprehensive rounds of measurements made in November and December 1986 substantially agree with water-level data collected during the Phase I and II investigations; the 1986 data are included in Table 9. Ground water is approximately 6 ft or less below land surface and is under water-table conditions in the shallow saturated zone. Data obtained from deep wells indicate that ground water at depth may be under confined conditions.

Water-table contours drawn from the November 4 and December 2, 1986 data are presented in Figures 6 and 7. The maps depict similar water-table configurations and flow directions, with the December map reflecting an overall rise in water-levels due to precipitation. Climatological data collected at nearby Lodi, New Jersey, indicate that September and October 1986 were relatively dry months (2 inches instead of the normal 3 inches each month). By contrast, precipitation during November was approximately 7 inches, which is nearly 3 inches above normal. As indicated by the flow arrows on the maps, shallow ground water flows toward and discharges into the many drainage channels at the

site. In turn, these channels ultimately join Ackermans Creek, which flows to the east and discharges into Berrys Creek, a tributary of the Hackensack River. Because of the configuration of the surface-water channels and former channels that have been filled in, several ground-water mounds and divides exist.

A large (in area) but slight (in elevation) ground-water mound underlies most of Areas 1, 1A and 5, with ground water generally flowing outward toward surrounding surface-water drainage channels. Ground-water flowing eastward from this area appears to discharge into drainage channels east of Area 5. These channels flow southeasterly to a point near Murray Hill Parkway, where they meet and flow south to Ackermans Creek.

Ground-water flow along the northern margin of the mound is directed toward the northern drainage channel, which separates UOP property from the Matheson Air Products facility. Water in this channel flows into a culvert adjacent to Staff Gauge 1. Some of the ground water flowing through the trough-like water-table depression extending northwestward from Well Cluster 7 may also discharge into the northern drainage channel. The rest of the ground water in this vicinity ultimately flows west, combining with flow west of the railroad tracks to discharge into a swale located on the western side of Route 17.

The smaller ground-water mound present in the vicinity of Wells 13I and 23I is probably related more to local surface-water flooding than to normal ground-water recharge. The flooding is caused by the tidal rise of the water in the drainage channel monitored by Staff Gauge 3, with water being transported beneath the railroad tracks by several culverts. Ground water generally flows away from the center of the mound, with some of the flow discharging back into the drainage channel. Most of the remaining flow is directed westward, toward the swale located on the western side of Route 17, and southward, toward a drainage channel connected by culverts to the surface-water channel just east of the railroad tracks.

The water-table configuration is not significantly affected by tidal changes in nearby surface-water drainage channels. This is confirmed by the water-level data collected in monitoring wells on October 9, 1985 (Appendix E). The water-table contour maps which were drawn from these data (Appendix E Figures 1 and 2), illustrate that the configuration of the water table at different times during the tide cycle (4 hours apart) is virtually identical.

Continuous water-level measurements made during December 1983 and February 1984 show that the elevation of the water table near the drainage channels undergoes small

daily fluctuations (only 0.25 ft or less). These fluctuations do not materially alter the pattern of ground-water discharge to the channels.

Water-level measurements made in Well Clusters 3 and 7 during 1983-1987 (Table 10) show that the vertical hydraulic gradient between the deep screen zone (approximately 105-130 ft below land surface) and the water table is predominantly upward. The presence of a confining, low-permeability body of varved clay lying between the water-table zone and deep screen zone allows differences in water levels to exist between the zones. Upward flow occurs because the site, near two major streams (Berrys Creek and the Hackensack River), is located in a regional discharge zone for ground water.

The reported yields of former production wells (located in Areas 1A and 2) screening the deeper zone range from 100 to 500 gpm, indicating that the material is relatively permeable sand and gravel.

Ground-water flow in the underlying Brunswick Formation bedrock occurs along joints and fractures within discrete water-bearing zones controlled by bedding (Carswell, 1976), that is, ground water flows much more easily along bedding planes than perpendicular to the planes. The resulting aquifers and confining beds are tens

of feet thick and dip northwestward at approximately 10 degrees. According to Carswell, the extent of these aquifers is limited in a downdip direction but is continuous along strike for thousands of feet. Ground water flows preferentially along strike, toward the northeast or southwest within the local region. Interconnections and hence, flow between aquifers is generally poor.

Geologic descriptions recorded during drilling, the results of the in-situ permeability testing, and water-table gradient calculations provide the information required to estimate horizontal ground-water flow velocities. By using Darcy's law, the average horizontal velocity is calculated to be 5 ft/yr (Table 8).

4.5.4 Regional Hydrogeology

Well records obtained from the NJDEP Division of Water Resources indicate that most of the wells located within 3 miles of the site are used for industrial or nonpotable purposes and are completed in bedrock.

Although municipal supply wells are operated by the nearby Towns of Wallington and Lodi, it is highly unlikely that any ground water at the UOP site could flow naturally or be induced to flow by pumping to any of these municipal wells. As discussed above, ground-water flow in the

Brunswick Formation aligns preferentially with the strike of the rock structure, which runs northeast-southwest. By contrast, the Wallington wells are between 2 and 3 miles northwest of the site, and the Lodi wells 2.5 to 3.5 miles to the north. If some component of ground-water flow from the UOP site is directed northward or northwestward, the dip of the aquifer beds (approximately 10 degrees to the northwest) would carry the UOP ground water too deep to be drawn into the Wallington or Lodi wells, which range from 400 to 600 ft deep. Considering the dip of the rock structure and the poor hydraulic connection between aquifers, a well in Wallington would have to be approximately 1900 ft deep to encounter ground water from the UOP site, and a well in Lodi approximately 1000 ft deep.

4.5.5 Ground-Water Quality

4.5.5.1 Introduction

Ground-water samples were collected from the five newly installed wells (27I through 31I) on December 2, 1986 and analyzed for Priority Pollutants and extra peaks. The results, along with those obtained during the earlier phases of work are discussed in the following sections.

4.5.5.2 Volatile Organic Compounds in Ground Water

The VOC results of the December 1986 sampling are included in Table 11, and total VOC concentrations for all data obtained during 1984-1986 (Phases II and III) are shown on Figure 8.

VOCs are the predominant contaminants in the uppermost (shallow) ground-water system. Existing data in Areas 1 and 2 show substantial concentrations of VOCs (Figure 8). One of the two new wells in Area 1A (Well 27I) also has a high VOC total, which is primarily composed of trichloroethene (21,000 ug/L), xylene (15,000 ug/L), toluene (14,000 ug/L) and trans-1,2-dichloroethene (6,300 ug/L). Whereas aromatic compounds, such as benzene, toluene, xylenes, and chlorobenzene are prominent in ground water under the site, halogenated organics (mainly trichloroethene and trans-1,2-dichloroethene) are at high concentration in Well 27I. The difference in compounds reflects the variety of materials handled at the facility.

In contrast, three new wells in Area 5 confirm that VOCs are present only at low levels at some well locations and not detected at others. Area 5 now is monitored by wells 8I, 10I, 18I, 20I, 25I, 26I, 29I, 30I, and 31I. Figure 8 shows that total VOCs were less than 10 ug/L in six

of these wells and were detected from 40 to 150 ug/L in the other three wells.

The ground-water quality contours on Figure 8 are updated from corresponding Plate 5 in the Phase II report. The only change is the detection of ground water VOC contamination in Area 1A.

4.5.5.3 Base/Neutral and Acid Extractable Compounds in Ground Water

Base/neutral and acid extractable (B/N/A) organic compounds are generally found in ground water at much lower concentrations than VOCs; Table 12 includes the data for the five 1986 wells. Figure 9 is an updated version of Plates 6 and 7 in the Phase II report, and it shows B/N/A compound totals for 1985-1986 samplings.

New well 27I is substantially contaminated with extractable compounds, notably benzoic acid (8,700 ug/L) and 1,2-dichlorobenzene (2,500 ug/L). Well 28I has much lower levels (<40 ug/L and 5.2 ug/L for the same two compounds), so ground-water contamination is not widespread in Area 1A. Of the wells in Area 5, three had no detectable B/N/A compounds, two had a total of approximately 20 ug/L, and four wells had a total of 230 to 550 ug/L.

4.5.5.4 Pesticides and PCBs in Ground-Water

No pesticides or polychlorinated biphenyls (PCBs) were detected in any of the five 1986 wells (Table 13). These new data confirm the existing data base: Pesticides have not been detected and PCBs occur only uncommonly in ground-water samples (PCBs were detected in 5 of 37 wells).

4.5.5.5 Non-Priority Pollutant Organic Compounds in Ground-water

Extra-peak searches were performed on ground-water samples analyzed during Phases I and II and reported previously (Geraghty & Miller, Inc., 1985). Xylenes, phenols, and derivatives of benzene were prominent, with estimated concentrations ranging from below 1 ppm up to 15 ppm. The highest concentrations occur in Areas 1 and 2, formerly active production sites that are underlain by ground water containing Priority Pollutants.

Extra-peak data for the five 1986 (Phase III) monitoring wells (MW-27 to MW-31) are included in Appendix F. Many peaks were detected above 1 ppm in samples from Wells 27I and 28I in Area 1A, formally an active production part of the site. As in Areas 1 and 2, the extra peaks from wells in Area 1A commonly represent derivatives of benzene. Few extra compounds were detected in the 1986 wells

installed in Area 5 and those compounds reported were present at low concentration (typically below 50 ug/L). The minimal presence of extra-peak compounds in Area 5 ground water confirms the assessment of environmental conditions in that area: The ground water has low levels of contamination, and constituents present in the soil are mainly extractable only by organic solvent (base/neutral extractable organics and PCBs) and would not be expected to leach substantially into the ground-water system.

4.5.5.6 Metals and Cyanide in Ground-Water

The data for metals and cyanide in the five 1986 wells are listed in Table 14; data for metals in ground water obtained during the Phase I and II investigations appear in the Phase II report (Geraghty & Miller, Inc., 1985). Except for manganese, metals concentrations are very low. Only lead occurs above primary drinking water standards in more than a few samples (Table 15). Lead is the least mobile primary drinking-water metal, and its occurrence in ground water above the standard may reflect prevailing (background) water quality. If substantial leaching of contamination from shallow soils was taking place, high levels of chromium should be expected in the underlying ground water, because chromium is present at elevated levels in some soil samples. As three phases of

work and Table 15 show, chromium contamination is not evident in ground water.

Manganese, a secondary drinking water constituent, may arise from the fill or be naturally concentrated in the peaty soil that makes up the meadow mat.

4.5.6 Comparison of Soil and Ground-Water Quality

At 21 locations, both soil and ground-water samples were taken; the results showing the prominent compounds are presented in Table 16 for ground water and coincident unsaturated and saturated soils.

Only rarely do prominent compounds in soil match those in the underlying ground water. One exception is Well 13I which is in a location with high toluene and benzene concentrations in soil and ground water. The more typical pattern is Area 5, where extractable organic compounds are prominent in soils but not in ground water.

Although shallow soils were undoubtedly a route for contaminant migration to the water table in the past, the current data show that the shallow soils are not now substantially adding to the contaminant levels present in ground water.

On the basis of the pattern of contaminant occurrence and the slow rate of ground-water movement, it appears that much of the leaching of contaminants has already occurred, and that residues are now dissolved in ground water and moving away from the original point of entry. Low solubility organics such as PCBs that are still present in soil can be expected to remain in the unsaturated zone for an extended period of time.

5.0 Air Investigation

Air monitoring was performed in conjunction with the drilling of soil borings and wells, and during trench excavations. The site is completely open and there are no buildings or other enclosed spaces where monitoring would be required to determine if vapors have accumulated. Field vapor meters were standardized before the outside field work began; no hazardous vapors were indicated during this procedure. Vapor levels ("TIP readings") recorded during drilling and excavating are noted on the geologic logs included in Appendix C.

Most vapor readings were low with respect to the Health and Safety Plan respirator standard of 10 ppm. Some moderate values (>50 ppm) were recorded in borings from Area 1A, a part of the site where volatile organic compounds are known to be present in soil and ground water.

As described in Section 4.4.1, VOCs typically have their highest occurrence in deeper soils and the rate of vapor release to the atmosphere is expected to be low. Other constituents detected at the site including base/neutral and acid extractable organic compounds, PCBs, and metals have low vapor pressures and, therefore, do not readily vaporize; these materials will not measurably alter the site's air quality.

Air quality is not judged to be a substantive issue at the site under current conditions. If actions are taken that require additional drilling or excavating, further measurements and precautions may be required.

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Table 1. Organic Compounds Listed By Concentration Order in Soils, 1986, UOP Site, East Rutherford, New Jersey.

Organic compound	Type of compound	Concentration (ug/kg)	Depth (ft below land surface)	Boring designation
Benzoic acid	B/N/A	8,500,000	4 - 6	B5-10
Toluene	VOC	2,060,000C	0 - 2	B2-4
		2,100,000B		
Toluene	VOC	1,600,000BC	2 - 4	B1A-4
Benzoic acid	B/N/A	1,100,000	0 - 2	B5-10
Toluene	VOC	906,000C	0 - 2	B1A-4
		910,000B		
bis(2-Ethylhexyl) phthalate	B/N/A	690,000	2 - 4	B5-3
1,2-Dichlorobenzene	B/N/A	630,000	2 - 4	B1A-4
Aroclor 1248	PCB	480,000	0 - 2	B5-7
1,1,2,2-Tetrachloroethane	VOC	230,000	2 - 4	B1A-2
4-Methylphenol	B/N/A	210,000	2 - 4	B1A-2
Xylene	VOC	160,000	0 - 2	B1A-3
Benzoic acid	B/N/A	150,000	0 - 2	B1A-5
1,4-Dichlorobenzene	B/N/A	130,000	2 - 4	B1A-4
Xylene	VOC	120,000	2 - 4	B1A-4

Table 1. Organic Compounds Listed By Concentration Order in Soils, 1986, UOP Site, East Rutherford, New Jersey.

Organic compound	Type of compound	Concentration (ug/kg)	Depth (ft below land surface)	Boring designation
Toluene	VOC	120,000	2 - 4	B1A-2
Aroclor 1248	PCB	95,000	0 - 2	B5-2
Toluene	VOC	91,000BC	0 - 2	B1A-5
Trichloroethene	VOC	80,000	2 - 4	B1A-2
1,2,4-Trichlorobenzene	B/N/A	64,000	2 - 4	B1A-2
Chlorobenzene	VOC	63,000	4 - 6	B1-3
1,2-Dichlorobenzene	B/N/A	61,000	0 - 2	B1A-4
bis(2-Ethylhexyl) phthalate	B/N/A	59,000	2 - 4	B1A-4
Xylene	VOC	57,000	0 - 2	B1A-4
Benzyl alcohol	B/N/A	51,000	2 - 4	B1A-2
Xylene	VOC	49,000	2 - 4	B1-7
Benzene	VOC	48,000	0 - 2	B2-4
Tetrachloroethene	VOC	48,000	2 - 4	B1A-2
1,2-Dichlorobenzene	B/N/A	43,000	0 - 2	B1A-3
bis(2-Ethylhexyl) phthalate	B/N/A	42,000	2 - 4	B1A-2
Pyrene	B/N/A	42,000	2 - 4	B5-7

Table 1. Organic Compounds Listed By Concentration Order in Soils, 1986, UOP Site, East Rutherford, New Jersey.

Organic compound	Type of compound	Concentration (ug/kg)	Depth (ft below land surface)	Boring designation
Xylene	VOC	39,000	0 - 2	B2-1
Xylene	VOC	38,000	0 - 2	B1A-5
Aroclor 1248	PCB	38,000	2 - 4	B5-7
Fluoranthene	B/N/A	37,000	0 - 2	B5-7
Benzene	VOC	33,000	2 - 4	B2-3
Fluoranthene	B/N/A	33,000	2 - 4	B5-7
1,3-Dichlorobenzene	B/N/A	33,000	2 - 4	B1A-4
Toluene	VOC	31,000	0 - 2	B1A-2
Ethylbenzene	VOC	27,000	2 - 4	B1A-4
Aroclor 1248	PCB	27,000	2 - 4	B5-2
Benzo(b and k) fluoranthene	B/N/A	27,000D	2 - 4	B5-7
Phenanthrene	B/N/A	26,000	0 - 2	B5-7
1,2,4-Trichlorobenzene	B/N/A	25,000	2 - 4	B1A-4
Benzyl alcohol	B/N/A	24,000	4 - 6	BIA-3
1,1,2,2-Tetrachloroethane	VOC	24,000	0 - 2	B1A-2
Chlorobenzene	VOC	23,000	0 - 2	B2-1

Table 1. Organic Compounds Listed By Concentration Order in Soils, 1986, UOP Site, East Rutherford, New Jersey.

Organic compound	Type of compound	Concentration (ug/kg)	Depth (ft below land surface)	Boring designation
Benzene	VOC	22,000	2 - 4	B1A-2
Benzo(b and k) fluoranthene	B/N/A	21,000	0 - 2	B5-7
Pyrene	B/N/A	21,000	0 - 2	B5-7
Aroclor 1248	PCB	21,000	2 - 4	B2-5
Benzoic Acid	B/N/A	20,000	0 - 2	B5-11
Benzo(a)anthracene	B/N/A	19,000	2 - 4	B5-7
Ethylbenzene	VOC	19,000	0 - 2	B1A-3
Xylene	VOC	19,000	4 - 6	B1A-3
4-Methylphenol	B/N/A	18,000J	4 - 6	B1A-6

Abbreviations and footnotes:

B/N/A - Base/neutral or acid extractable organic compound
VOC - Volatile organic compound
PCB - Polychlorinated biphenyl

B - Compound was found in the blank as well as in the sample. Indicates possible/probable blank contamination.

C - Value corrected for blank contamination.

J - Estimated value.

Table 2. Volatile Organic Compounds in Soil Samples Collected from Areas 1, 1A, 2 and 5, October-November 1986, UOP Site, East Rutherford, New Jersey.

Data Reporting Qualifiers

< Indicates compound was analyzed for but not detected. The number is the minimum attainable detection limit for the sample.

B - This flag indicates the compound was found in the blank as well as the sample. It indicates possible/probable blank contamination and warns the data user to take appropriate action.

J - This flag indicates an estimated value. It is used either when estimating a concentration for tentatively indentified compounds where a 1:1 response is assumed or when the mass spectral data indicated the presence of a compound that meets the identification criteria but the result is less than the specified detection limit but greater than zero (e.g., 10J). If limit of detection is 10 ug/L and a concentration of 3 ug/L is calculated, report as 3J.

M - This flag indicates the compound has not met identification criteria listed in the complete laboratory reports, but in the technical judgement of the MS interpreter the identification is correct.

Conc./Dilution Factor - Depending on sample composition, and instrumental requirements, volumes were changed prior to analysis. The results reported in these tables are corrected for those volume changes and reflect the concentration in the sample bottle before laboratory processing. The concentration/dilution factors are listed to provide the information needed to calculate the fraction of reported values that are due to the presence of contaminants in laboratory blanks.

Laboratory: ERCO, Division of ENSECO, 205 Alewife Brook Parkway, Cambridge, Massachusetts 02138.

Table 2. Volatile Organics in Soil Samples, Areas 1, 1A, 2 & 5, UOP Site, E. Rutherford, NJ.

Boring Number:	B1-1		B1-2		B1-3	
Sample Depth:	0'-2'	4'-6'	0'-2'	2'-4'	0'-2'	4'-6'
Sample Type:	unsat.	sat.	unsat.	sat.	unsat.	sat.
Date Sampled:	10/9/86	10/9/86	10/14/86	10/8/86	10/8/86	10/8/86
[units: ug/kg (ppb)]						
chloromethane	<230	<480	<1000	<920	<23	<23000
bromomethane	<230	<480	<1000	<920	<23	<23000
vinyl chloride	<230	<480	<1000	<920	<23	<23000
chloroethane	<230	<480	<1000	<920	<23	<23000
methylene chloride	120B	220B	310B	480B	5.9B	7600B
acetone	14000B	2200B	1400B	1000B	130B	<23000
carbon disulfide	<120	<240	<500	<460	<12	<12000
1,1-dichloroethene	<120	<240	<500	<460	<12	<12000
1,1-dichloroethane	<120	<240	<500	<460	<12	<12000
trans-1,2-dichloroethene	21	<240	<500	<460	<12	<12000
chloroform	<120	<240	<500	<460	2.4J	<12000
1,2-dichloroethane	<120	<240	<500	<460	<12	<12000
2-butanone	1500B	1400B	2300B	1400B	<23	<23000
1,1,1-trichloroethane	<120	<240	<500	<460	<12	<12000
carbon tetrachloride	<120	<240	<500	<460	<12	<12000
vinyl acetate	<230	<480	<1000	<920	<23	<23000
bromodichloromethane	<120	<240	<500	<460	<12	<12000
1,2-dichloropropane	<120	<240	<500	<460	<12	<12000
trans-1,3-dichloropropene	<120	<240	<500	<460	<12	<12000
trichloroethene	<120	<240	88	43J	5.2	<12000
dibromochloromethane	<120	<240	<500	<460	<12	<12000
1,1,2-trichloroethane	<120	<240	<500	<460	<12	<12000
benzene	44	370	49J	840	6.7	<12000
cis-1,3-dichloropropene	<120	<240	<500	<460	<12	<12000
2-chloroethylvinylether	<230	<480	<1000	<920	<23	<23000
bromoform	<120	<240	<500	<460	<12	<12000
4-methyl-2-pentanone	<230	<480	<1000	<920	<23	<23000
2-hexanone	<230	<480	<1000	<920	<23	<23000
tetrachloroethene	<120	<240	<500	<460	3.4J	<12000
1,1,2,2-tetrachloroethane	<120	<240	<500	<460	<12	<12000
toluene	800B	1100B	160B	220J	20B	<12000
chlorobenzene	<120	810	7100	12000	<12	63000
ethylbenzene	<120	<240	<500	<460	28	<12000
styrene	<120	<240	<500	<460	<12	<12000
total xylenes	<120	<240	<500	66J	400	<12000
Conc./Dilution Factor	23	48	100	92	2.3	2300

Table 2. Volatile Organics in Soil Samples, Areas 1, 1A, 2 & 5, UOP Site, E. Rutherford, NJ.

Boring Number:	B1-4		B1-5		B1-6		B1-7	
Sample Depth:	0'-2'	4'-6'	0'-2'	8'-10'	0'-2'	2'-4'	0'-2'	2'-4'
Sample Type:	unsat.	sat.	unsat.	sat.	unsat.	sat.	unsat.	sat.
Date Sampled:	10/8/86	10/8/86	10/9/86	10/9/86	10/14/86	10/9/86	10/14/86	10/9/86
[units: ug/kg (ppb)]								
chloromethane	<18	<250	<17	<16	<16	<48	<17	<5000
bromomethane	<18	<250	<17	<16	<16	<48	<17	<5000
vinyl chloride	<18	<250	<17	<16	<16	<48	<17	<5000
chloroethane	<18	<250	<17	<16	<16	<48	<17	<5000
methylene chloride	3.0B	210B	3.6B	32B	8.3B	7.6B	18B	2200B
acetone	46B	660B	<17	49	<16	44B	37	<5000
carbon disulfide	<9.0	<120	<8.5	<8.0	<8.0	<24	<8.5	<2500
1,1-dichloroethene	<9.0	<120	<8.5	<8.0	<8.0	<24	<8.5	<2500
1,1-dichloroethane	<9.0	<120	<8.5	<8.0	<8.0	<24	<8.5	<2500
trans-1,2-dichloroethene	<9.0	<120	<8.5	<8.0	<8.0	<24	<8.5	<2500
chloroform	<9.0	<120	<8.5	<8.0	<8.0	<24	<8.5	<2500
1,2-dichloroethane	<9.0	<120	<8.5	<8.0	<8.0	<24	<8.5	<2500
2-butanone	<18	1500B	<17	<16	<16	<48	<17	5800B
1,1,1-trichloroethane	<9.0	<120	<8.5	<8.0	<8.0	<24	<8.5	<2500
carbon tetrachloride	<9.0	<120	<8.5	<8.0	<8.0	<24	<8.5	<2500
vinyl acetate	<18	<250	<17	<16	<16	<48	<17	<5000
bromodichloromethane	<9.0	<120	<8.5	<8.0	<8.0	<24	<8.5	<2500
1,2-dichloropropane	<9.0	<120	<8.5	<8.0	<8.0	<24	<8.5	<2500
trans-1,3-dichloropropene	<9.0	<120	<8.5	<8.0	<8.0	<24	<8.5	<2500
trichloroethene	1.8J	<120	<8.5	<8.0	<8.0	<24	<8.5	<2500
dibromochloromethane	<9.0	<120	<8.5	<8.0	<8.0	<24	<8.5	<2500
1,1,2-trichloroethane	<9.0	<120	<8.5	<8.0	<8.0	<24	<8.5	<2500
benzene	<9.0	7900	<8.5	<8.0	<8.0	<24	<8.5	2400J
cis-1,3-dichloropropene	<9.0	<120	<8.5	<8.0	<8.0	<24	<8.5	<2500
2-chloroethylvinylether	<18	<250	<17	<16	<16	<48	<17	<5000
bromoform	<9.0	<120	<8.5	<8.0	<8.0	<24	<8.5	<2500
4-methyl-2-pentanone	<18	<250	<17	<16	<16	<48	<17	<5000
2-hexanone	<18	<250	<17	<16	<16	<48	<17	<5000
tetrachloroethene	<9.0	<120	<8.5	<8.0	<8.0	<24	<8.5	<2500
1,1,2,2-tetrachloroethane	<9.0	<120	<8.5	<8.0	<8.0	<24	<8.5	<2500
toluene	9.3B	120	1.2B	2.8B	<8.0	5.2B	4.0B	2700B
chlorobenzene	<9.0	<120	<8.5	11	<8.0	93	<8.5	1700J
ethylbenzene	1.9J	270	<8.5	<8.0	<8.0	3.3J	<8.5	11000
styrene	<9.0	<120	<8.5	<8.0	<8.0	<24	<8.5	<2500
total xylenes	11	920	<8.5	<8.0	<8.0	34	<8.5	49000
Conc./Dilution Factor	1.8	25	1.7	1.6	1.6	4.8	1.7	500

Table 2. Volatile Organics in Soil Samples, Areas 1, 1A, 2 & 5, UOP Site, E. Rutherford, NJ.

Boring Number:	B1-8	B1-8	B1-9	B1A-1		B1A-2	
Sample Depth:	0'-2'	2'-4'	0'-2'	0'-2'	2'-4'	0'-2'	2'-4'
Sample Type:	unsat.	sat.	sat.	unsat.	sat.	unsat.	sat.
Date Sampled:	10/14/86	10/9/86	10/9/86	10/10/86	10/10/86	10/10/86	10/10/86
[units: ug/kg (ppb)]							
chloromethane	<17	<23	<16	<22	<250	<1,000	<5,000
bromomethane	<17	<23	<16	<22	<250	<1,000	<5,000
vinyl chloride	<17	<23	<16	<22	<250	<1,000	<5,000
chloroethane	<17	<23	<16	<22	<250	<1,000	<5,000
methylene chloride	18B	13B	16B	29B	340B	430B	1,500B
acetone	31	27	31	53	15,000B	1,500B	7,200B
carbon disulfide	<8.5	<11	<8.0	<11	<120	<500	<2,500
1,1-dichloroethene	<8.5	<11	<8.0	<11	<120	<500	<2,500
1,1-dichloroethane	<8.5	<11	<8.0	<11	<120	<500	<2,500
trans-1,2-dichloroethene	<8.5	<11	<8.0	<11	<120	7,600	6,700
chloroform	<8.5	<11	<8.0	<11	<120	<500	<2,500
1,2-dichloroethane	<8.5	<11	<8.0	<11	<120	110J	<2,500
2-butanone	<17	<23	<16	<22	1,600B	1,500B	<5,000
1,1,1-trichloroethane	<8.5	<11	<8.0	<11	<120	<500	<2,500
carbon tetrachloride	<8.5	<11	<8.0	<11	<120	<500	<2,500
vinyl acetate	<17	<23	<16	<22	<250	<1,000	<5,000
bromodichloromethane	<8.5	<11	<8.0	<11	<120	<500	<2,500
1,2-dichloropropane	<8.5	<11	<8.0	<11	<120	<500	<2,500
trans-1,3-dichloropropene	<8.5	<11	<8.0	<11	<120	<500	<2,500
trichloroethene	1.1J	<11	2.5J	<11	<120	8,400	80,000
dibromochloromethane	<8.5	<11	<8.0	<11	<120	<500	<2,500
1,1,2-trichloroethane	<8.5	<11	<8.0	<11	<120	540	<2,500
benzene	<8.5	2.2J	<8.0	<11	<120	4,700	22,000
cis-1,3-dichloropropene	<8.5	<11	<8.0	<11	<120	<500	<2,500
2-chloroethylvinylether	<17	<23	<16	<22	<250	<1,000	<5,000
bromoform	<8.5	<11	<8.0	<11	<120	<500	<2,500
4-methyl-2-pentanone	<17	<23	<16	<22	<250	<1,000	<5,000
2-hexanone	<17	<23	<16	<22	<250	<1,000	<5,000
tetrachloroethene	<8.5	<11	<8.0	<11	<120	8,100	48,000
1,1,2,2-tetrachloroethane	<8.5	<11	<8.0	<11	<120	24,000	230,000
toluene	.60BJ	2.8B	6.5B	18B	1,500B	31,000	120,000
chlorobenzene	<8.5	12	6B	<11	<120	<130	<2,500
ethylbenzene	<8.5	12	1.4J	<11	<120	700	3,900
styrene	<8.5	<11	<8.0	<11	<120	<500	<2,500
total xylenes	<8.5	6.4J	<8.0	<11	<120	5,500	14,000
Conc./Dilution Factor	1.7	2.3	1.6	2.2	25	100	500

Table 2. Volatile Organics in Soil Samples, Areas 1, 1A, 2 & 5, UOP Site, E. Rutherford, NJ.

Boring Number:	B1A-3	B1A-3	B1A-4		B1A-5		B1A-6	
Sample Depth:	0'-2'	4'-6'	0'-2'	2'-4'	0'-2'	2'-4'	0'-2'	4'-6'
Sample Type:	unsat.	sat.	unsat.	sat.	unsat.	sat.	unsat.	sat.
Date Sampled:	10/10/86	10/10/86	10/10/86	10/10/86	10/10/86	10/10/86	10/10/86	10/10/86
[units: ug/kg (ppb)]								
chloromethane	<2,500	<20,000	<100,000	<120,000	<5,000	<1,000	<16	<1,000
bromomethane	<2,500	<20,000	<100,000	<120,000	<5,000	<1,000	<16	<1,000
vinyl chloride	<2,500	<20,000	<100,000	<120,000	<5,000	<1,000	<16	<1,000
chloroethane	<2,500	<20,000	<100,000	<120,000	<5,000	<1,000	<16	<1,000
methylene chloride	1,100B	20,000B	17,000	26,000B	1,700B	220B	2.8J	210B
acetone	<2,500	<20,000	<100,000	<120,000	<5,000	3,600B	<16	2,900B
carbon disulfide	<1,200	<10,000	<50,000	<60,000	<2,500	<500	<8	<500
1,1-dichloroethene	<1,200	<10,000	<50,000	<60,000	<2,500	<500	<8	<500
1,1-dichloroethane	<1,200	<10,000	<50,000	<60,000	<2,500	<500	<8	<500
trans-1,2-dichloroethene	<1,200	<10,000	<50,000	<60,000	<2,500	370J	<8	<500
chloroform	<1,200	<10,000	<50,000	<60,000	<2,500	<500	<8	<500
1,2-dichloroethane	<1,200	<10,000	<50,000	<60,000	<2,500	<500	<8	<500
2-butanone	1,800B	<20,000	<100,000	<120,000	<5,000	2,500B	<16	1,900B
1,1,1-trichloroethane	<1,200	<10,000	<50,000	<60,000	<2,500	<500	<8	<500
carbon tetrachloride	<1,200	<10,000	<50,000	<60,000	<2,500	<500	<8	<500
vinyl acetate	<2,500	<20,000	<100,000	<120,000	<5,000	<1,000	<16	<1,000
bromodichloromethane	<1,200	<10,000	<50,000	<60,000	<2,500	<500	<8	<500
1,2-dichloropropane	<1,200	<10,000	<50,000	<60,000	<2,500	<500	<8	<500
trans-1,3-dichloropropene	<1,200	<10,000	<50,000	<60,000	<2,500	<500	<8	<500
trichloroethene	<1,200	<10,000	<50,000	<60,000	<2,500	89BJ	3.5J	1,000B
dibromochloromethane	<1,200	<10,000	<50,000	<60,000	<2,500	<500	<8	<500
1,1,2-trichloroethane	<1,200	<10,000	<50,000	<60,000	<2,500	<500	<8	<500
benzene	<1,200	1,100J	<50,000	<60,000	<2,500	520	<8	2,200
cis-1,3-dichloropropene	<1,200	<10,000	<50,000	<60,000	<2,500	<500	<8	<500
2-chloroethylvinylether	<2,500	<20,000	<100,000	<120,000	<5,000	<1,000	<16	<1,000
bromoform	<1,200	<10,000	<50,000	<60,000	<2,500	<500	<8	<500
4-methyl-2-pentanone	<2,500	<20,000	<100,000	<120,000	<5,000	<1,000	<16	<1,000
2-hexanone	<2,500	<20,000	<100,000	<120,000	<5,000	<1,000	<16	<1,000
tetrachloroethene	<1,200	<10,000	<50,000	<60,000	<2,500	<500	<8	<500
1,1,2,2-tetrachloroethane	<1,200	<10,000	<50,000	<60,000	<2,500	<500	<8	<500
toluene	7,900B	1,500B	910,000B	1,600,000B	91,000B	11,000B	12	7,600B
chlorobenzene	4,100	160,000B	<50,000	<60,000	<2,500	670	14	<500
ethylbenzene	19,000	6,100J	17,000J	27,000	4,100	1,200	36	5,300
styrene	<1,200	<10,000	<50,000	<60,000	<2,500	<500	<8	<500
total xylenes	160,000	19,000	57,000	120,000	38,000	6,200	5.3J	570
Conc./Dilution Factor	250	2000	10000	12000	500	100	1.6	100

Table 2. Volatile Organics in Soil Samples, Areas 1, 1A, 2 & 5, UOP Site, E. Rutherford, NJ.

Boring Number:	B1A-7		B1A-8		B2-1		B2
Sample Depth:	0'-2'	4'-6'	0'-2'	2'-4'	0'-2'	6'-8'	0'-2'
Sample Type:	unsat.	sat.	unsat.	sat.	unsat.	sat.	unsat.
Date Sampled:	10/10/86	10/10/86	10/10/86	10/10/86	10/13/86	10/13/86	10/13/86
[units: ug/kg (ppb)]							
chloromethane	<45	<16	<15	<38	<2400	<17	<15
bromomethane	<45	<16	<15	<38	<2400	<17	<15
vinyl chloride	<45	<16	<15	<38	<2400	<17	<15
chloroethane	<45	<16	<15	<38	<2400	<17	<15
methylene chloride	69B	54B	3.3J	11J	1100B	10B	31B
acetone	<45	95	<7.5	3400	<2400	17	2300
carbon disulfide	<22	<8	<7.5	<19	<1200	<8.5	4.6J
1,1-dichloroethene	<22	<8	<7.5	<19	<1200	<8.5	<7.5
1,1-dichloroethane	<22	<8	<7.5	<19	<1200	<8.5	<7.5
trans-1,2-dichloroethene	<22	<8	<7.5	<19	<1200	<8.5	<7.5
chloroform	<22	<8	<7.5	<19	<1200	<8.5	<7.5
1,2-dichloroethane	<22	<8	<7.5	<19	<1200	<8.5	<7.5
2-butanone	<45	<16	<15	<38	<2400	<17	<15
1,1,1-trichloroethane	<22	<8	<7.5	<19	<1200	<8.5	<7.5
carbon tetrachloride	<22	<8	<7.5	<19	<1200	<8.5	<7.5
vinyl acetate	<45	<16	<15	<38	<2400	<17	<15
bromodichloromethane	<22	<8	<7.5	<19	<1200	<8.5	<7.5
1,2-dichloropropane	<22	<8	<7.5	<19	<1200	<8.5	<7.5
trans-1,3-dichloropropene	<22	<8	<7.5	<19	<1200	<8.5	<7.5
trichloroethene	1.8BJ	<8	<7.5	<19	<1200	<8.5	1.4B
dibromochloromethane	<22	<8	<7.5	<19	<1200	<8.5	<7.5
1,1,2-trichloroethane	<22	<8	<7.5	<19	<1200	<8.5	<7.5
benzene	<22	<8	<7.5	300	<1200	<8.5	10
cis-1,3-dichloropropene	<22	<8	<7.5	<19	<1200	<8.5	<7.5
2-chloroethylvinylether	<45	<16	<15	<38	<2400	<17	<15
bromoform	<22	<8	<7.5	<19	<1200	<8.5	<7.5
4-methyl-2-pentanone	<45	<16	<15	<38	<2400	<17	<15
2-hexanone	<45	<16	<15	<38	<2400	<17	<15
tetrachloroethene	<22	<8	<7.5	<19	<1200	<8.5	<7.5
1,1,2,2-tetrachloroethane	<22	<8	<7.5	<19	<1200	<8.5	<7.5
toluene	5.5BJ	6.0B	2.0J	18J	990B	3.8J	9.9B
chlorobenzene	4.4B	1.4J	2.2J	290	23000	14	<7.5
ethylbenzene	<22	5.9J	<7.5	85	7800	3.5J	<7.5
styrene	<22	<8	<7.5	<19	<1200	<8.5	<7.5
total xylenes	21J	2.6	<7.5	63	39000	18	<7.5
Conc./Dilution Factor	4.5	1.6	1.5	3.8	240	1.7	1.5

Table 2. Volatile Organics in Soil Samples, Areas 1, 1A, 2 & 5, UOP Site, E. Rutherford, NJ.

Boring Number:	-2	B2-3	B2-4	B2-5	B2-6	B2-7	
Sample Depth:	2'-4'	2'-4'	0'-2'	2'-4'	2'-4'	0'-2'	2'-4'
Sample Type:	sat.	sat.	sat.	sat.	sat.	unsat.	sat.
Date Sampled:	10/13/86	10/13/86	10/13/86	10/13/86	10/13/86	10/13/86	10/13/86
[units: ug/kg (ppb)]							
chloromethane	<15	<9800	<480000	<480	<15	<40	<250
bromomethane	<15	<9800	<480000	<480	<15	<40	<250
vinyl chloride	<15	<9800	<480000	<480	<15	<40	<250
chloroethane	<15	<9800	<480000	<480	<15	<40	<250
methylene chloride	29B	7000BJ	130000B	1900B	13B	92	180B
acetone	260	<4900	<480000	2400B	20	<40	590B
carbon disulfide	<7.5	<4900	<240000	<240	<7.5	<20	<120
1,1-dichloroethene	<7.5	<4900	<240000	<240	<7.5	<20	<120
1,1-dichloroethane	<7.5	<4900	<240000	<240	<7.5	<20	<120
trans-1,2-dichloroethene	<7.5	<4900	<240000	<240	<7.5	<20	<120
chloroform	<7.5	<4900	<240000	<240	<7.5	<20	<120
1,2-dichloroethane	<7.5	<4900	<240000	<240	<7.5	<20	<120
2-butanone	24	<9800	<480000	1600B	<15	<40	1800B
1,1,1-trichloroethane	<7.5	<4900	<240000	<240	<7.5	<20	<120
carbon tetrachloride	<7.5	<4900	<240000	<240	<7.5	<20	<120
vinyl acetate	<15	<9800	<480000	<480	<15	<40	<250
bromodichloromethane	<7.5	<4900	<240000	<240	<7.5	<20	<120
1,2-dichloropropane	<7.5	<4900	<240000	<240	<7.5	<20	<120
trans-1,3-dichloropropene	<7.5	<4900	<240000	<240	<7.5	<20	<120
trichloroethene	<7.5	<4900	<240000	<240	<7.5	<20	<120
dibromochloromethane	<7.5	<4900	<240000	<240	<7.5	<20	<120
1,1,2-trichloroethane	<7.5	<4900	<240000	<240	<7.5	<20	<120
benzene	7.2J	33000	48000	1900	<7.5	<20	64B
cis-1,3-dichloropropene	<7.5	<4900	<240000	<240	<7.5	<20	<120
2-chloroethylvinylether	<15	<9800	<480000	<480	<15	<40	<250
bromoform	<7.5	<4900	<240000	<240	<7.5	<20	<120
4-methyl-2-pentanone	<15	<9800	<480000	<480	<15	<40	<250
2-hexanone	<15	<9800	<480000	<480	<15	<40	<250
tetrachloroethene	<7.5	<4900	<240000	<240	<7.5	<20	<120
1,1,2,2-tetrachloroethane	<7.5	<4900	<240000	<240	<7.5	<20	<120
toluene	16	1200BJ	2100000B	4000B	.93B	<20	4800B
chlorobenzene	<7.5	<4900	<240000	1200	<7.5	<20	120J
ethylbenzene	<7.5	<4900	<240000	50J	<7.5	<20	370
styrene	<7.5	<4900	<240000	<240	<7.5	<20	<120
total xylenes	<7.5	<4900	<240000	84J	<7.5	<20	610
Conc./Dilution Factor	1.5	980	48000	48	1.5	4.0	25

Table 2. Volatile Organics in Soil Samples, Areas 1, 1A, 2 & 5, UOP Site, E. Rutherford, NJ.

Boring Number:	B2-8		B2-9	B2-10		B5-1	
Sample Depth:	0'-2'	2'-4'	0'-2'	0'-2'	2'-4'	0'-2'	2'-4'
Sample Type:	unsat.	sat.	sat.	unsat.	sat.	unsat.	sat.
Date Sampled:	10/13/86	10/13/86	10/13/86	10/13/86	10/13/86	10/28/86	10/28/86
(units: ug/kg (ppb))							
chloromethane	<17	<35	<15	<47	<17	<16	<15
bromomethane	<17	<35	<15	<47	<17	<16	<15
vinyl chloride	<17	<35	<15	<47	<17	<16	<15
chloroethane	<17	<35	<15	<47	<17	<16	<15
methylene chloride	15B	66B	14B	26B	11B	22B	26B
acetone	28	63	<15	950	620	<16	4000
carbon disulfide	<8.5	<17	<7.5	<24	<8.5	2.0J	16M
1,1-dichloroethene	<8.5	<17	<7.5	<24	<8.5	<8	<7.5
1,1-dichloroethane	<8.5	<17	<7.5	<24	<8.5	<8	<7.5
trans-1,2-dichloroethene	<8.5	<17	<7.5	<24	<8.5	<8	<7.5
chloroform	<8.5	<17	<7.5	<24	<8.5	<8	<7.5
1,2-dichloroethane	<8.5	<17	<7.5	<24	<8.5	1.1MJ	<7.5
2-butanone	<17	<35	<15	<47	<17	<16	<15
1,1,1-trichloroethane	<8.5	<17	<7.5	<24	<8.5	<8	<7.5
carbon tetrachloride	<8.5	<17	<7.5	<24	<8.5	<8	<7.5
vinyl acetate	<17	<35	<15	<47	<17	<16	<15
bromodichloromethane	<8.5	<17	<7.5	<24	<8.5	<8	<7.5
1,2-dichloropropane	<8.5	<17	<7.5	<24	<8.5	<8	<7.5
trans-1,3-dichloropropene	<8.5	<17	<7.5	<24	<8.5	<8	<7.5
trichloroethene	<8.5	<17	<7.5	<24	<8.5	<8	<7.5
dibromochloromethane	<8.5	<17	<7.5	<24	<8.5	<8	<7.5
1,1,2-trichloroethane	<8.5	<17	<7.5	<24	<8.5	<8	<7.5
benzene	<8.5	<17	<7.5	<24	<8.5	<8	3.6J
cis-1,3-dichloropropene	<8.5	<17	<7.5	<24	<8.5	<8	<7.5
2-chloroethylvinylether	<17	<35	<15	<47	<17	<16	<15
bromoform	<8.5	<17	<7.5	<24	<8.5	<8	<7.5
4-methyl-2-pentanone	<17	<35	<15	<47	<17	<16	<15
2-hexanone	<17	<35	<15	<47	<17	<16	<15
tetrachloroethene	<8.5	<17	<7.5	<24	<8.5	14	7.5J
1,1,2,2-tetrachloroethane	<8.5	<17	<7.5	<24	<8.5	<8	<7.5
toluene	<8.5	<17	2.7J	7.8J	2.6J	1.2J	10
chlorobenzene	<8.5	<17	<7.5	<24	<8.5	.82MJ	3.6J
ethylbenzene	<8.5	<17	<7.5	<24	<8.5	<8	<7.5
styrene	<8.5	<17	<7.5	<24	<8.5	<8	<7.5
total xylenes	<8.5	<17	<7.5	<24	<8.5	<8	<7.5
Conc./Dilution Factor	1.7	3.5	1.5	4.7	1.7	1.6	1.5

Table 2. Volatile Organics in Soil Samples, Areas 1, 1A, 2 & 5, UOP Site, E. Rutherford, NJ.

Boring Number:	B5-2		B5-3		B5-4		B5-5	
Sample Depth:	0'-2'	2'-4'	0'-2'	2'-4'	0'-2'	4'-6'	0'-2'	4'-6'
Sample Type:	unsat.	sat.	unsat.	sat.	unsat.	sat.	unsat.	sat.
Date Sampled:	10/29/86	10/29/86	10/29/86	10/29/86	10/29/86	10/29/86	10/29/86	10/29/86
[units: ug/kg (ppb)]								
chloromethane	<17	<240	<47	<2500	<16	<48	<16	<17
bromomethane	<17	<240	<47	<2500	<16	<48	<16	<17
vinyl chloride	<17	<240	<47	<2500	<16	<48	<16	<17
chloroethane	<17	<240	<47	<2500	<16	<48	<16	<17
methylene chloride	30B	220B	53B	1600B	48B	69B	26B	46B
acetone	<17	460B	<47	<2500	170	680	<16	<17
carbon disulfide	2.6J	<120	<23	<1200	3.5J	9.0J	11J	5.0J
1,1-dichloroethene	<8.5	<120	8.3J	<1200	4.5J	<24	2.3J	2.2J
1,1-dichloroethane	<8.5	<120	<23	<1200	<8	<24	<8	<8.5
trans-1,2-dichloroethene	19	65J	<23	<1200	<8	<24	1.5J	<8.5
chloroform	<8.5	<120	<23	<1200	<8	<24	.35J	<8.5
1,2-dichloroethane	<8.5	<120	<23	<1200	4.9J	<24	<8	<8.5
2-butanone	<17	1100B	<47	2000B	<16	<48	<16	<17
1,1,1-trichloroethane	<8.5	<120	<23	<1200	<8	<24	<8	<8.5
carbon tetrachloride	<8.5	<120	<23	<1200	<8	<24	<8	<8.5
vinyl acetate	<17	<240	<47	<2500	<16	<48	<16	<17
bromodichloromethane	<8.5	<120	<23	<1200	1.7J	<24	<8	<8.5
1,2-dichloropropane	<8.5	<120	<23	<1200	<8	<24	<8	<8.5
trans-1,3-dichloropropene	<8.5	<120	<23	<1200	<8	<24	<8	<8.5
trichloroethene	<8.5	<120	7.3J	<1200	2.5J	<24	4.6J	2.3J
dibromochloromethane	<8.5	<120	<23	<1200	<8	<24	<8	<8.5
1,1,2-trichloroethane	<8.5	<120	<23	<1200	<8	<24	<8	<8.5
benzene	<8.5	440	120	390J	47	6.6J	1.8J	3.4J
cis-1,3-dichloropropene	<8.5	<120	<23	<1200	<8	<24	<8	<8.5
2-chloroethylvinylether	<17	<240	<47	<2500	<16	<48	<16	<17
bromoform	<8.5	<120	<23	<1200	<8	<24	<8	<8.5
4-methyl-2-pentanone	<17	<240	<47	<2500	13J	<48	<16	<17
2-hexanone	<17	<240	<47	<2500	<16	<48	<8	<17
tetrachloroethene	3.4J	<120	56	<1200	56	<24	26	31
1,1,2,2-tetrachloroethane	34	<120	<23	<1200	<8	<24	<8	<8.5
toluene	21J	40B	63	500B	100	13J	15B	40B
chlorobenzene	<8.5	670	280	17000	37	7.8J	5.7J	74
ethylbenzene	<8.5	<120	16J	370J	14	<24	<8	<8.5
styrene	<8.5	<120	<23	<1200	<8	<24	<8	<8.5
total xylenes	<8.5	<120	<23	<1200	54	<24	12	<8.5
Conc./Dilution Factor	1.7	24	4.7	250	1.6	4.8	1.6	1.7

Table 2. Volatile Organics in Soil Samples, Areas 1, 1A, 2 & 5, UOP Site, E. Rutherford, NJ.

Boring Number:	B5-6		B5-7		B5-8		B5-9
Sample Depth:	0'-2'	2'-4'	0'-2'	2'-4'	0'-2'	6'-8'	0'-2'
Sample Type:	unsat.	sat.	unsat.	sat.	unsat.	sat.	unsat.
Date Sampled:	10/29/86	10/29/86	10/29/86	10/29/86	10/30/86	10/30/86	10/30/86
[units: ug/kg (ppb)]							
chloromethane	<17	<16	<16	<15	<17	<15	<15
bromomethane	<17	<16	<16	<15	<17	<15	<15
vinyl chloride	<17	<16	<16	<15	<17	<15	<15
chloroethane	<17	<16	<16	<15	<17	<15	<15
methylene chloride	11	19B	110B	96B	21B	18B	16B
acetone	<17	<16	<16	770B	38	<15	<15
carbon disulfide	<8.5	<8	4.4J	48	<8.5	1.1J	<7.5
1,1-dichloroethene	<8.5	<8	<8	<7.5	<8.5	<7.5	<7.5
1,1-dichloroethane	<8.5	<8	<8	<7.5	<8.5	<7.5	<7.5
trans-1,2-dichloroethene	<8.5	<8	<8	<7.5	<8.5	<7.5	<7.5
chloroform	<8.5	<8	<8	<7.5	<8.5	<7.5	<7.5
1,2-dichloroethane	<8.5	<8	<8	<7.5	<8.5	<7.5	<7.5
2-butanone	<17	<16	<16	72	<17	<15	<15
1,1,1-trichloroethane	<8.5	<8	<8	<7.5	<8.5	<7.5	<7.5
carbon tetrachloride	<8.5	<8	<8	<7.5	<8.5	<7.5	<7.5
vinyl acetate	<17	<16	<16	<15	<17	<15	<15
bromodichloromethane	<8.5	<8	<8	<7.5	<8.5	<7.5	<7.5
1,2-dichloropropane	<8.5	<8	<8	<7.5	<8.5	<7.5	<7.5
trans-1,3-dichloropropene	<8.5	<8	<8	<7.5	<8.5	<7.5	<7.5
trichloroethene	<8.5	<8	<8	<7.5	<8.5	<7.5	<7.5
dibromochloromethane	<8.5	<8	<8	<7.5	<8.5	<7.5	<7.5
1,1,2-trichloroethane	<8.5	<8	<8	<7.5	<8.5	<7.5	<7.5
benzene	.94MJ	<8	<8	2.6J	<8.5	<7.5	<7.5
cis-1,3-dichloropropene	<8.5	<8	<8	<7.5	<8.5	<7.5	<7.5
2-chloroethylvinylether	<17	<16	<16	<15	<17	<15	<15
bromoform	<8.5	<8	<8	<7.5	<8.5	<7.5	<7.5
4-methyl-2-pentanone	<17	<16	<16	<7.5	<17	<15	<15
2-hexanone	<17	<16	<16	<15	<17	<15	<15
tetrachloroethene	10	<8	14	7.2J	7.3J	5.1J	3.3B
1,1,2,2-tetrachloroethane	<8.5	<8	<8	<7.5	<8.5	<7.5	<7.5
toluene	9.7B	<8	2.5J	22B	2.1J	<7.5	4.4J
chlorobenzene	6.2J	<8	22	12	3.5J	<7.5	<7.5
ethylbenzene	<8.5	<8	11	<7.5	<8.5	<7.5	<7.5
styrene	<8.5	<8	<8	<7.5	<8.5	<7.5	<7.5
total xylenes	4.4J	<8	12	<7.5	<8.5	<7.5	<7.5
Conc./Dilution Factor	1.7	1.6	1.6	1.5	1.7	1.5	1.5

Table 2. Volatile Organics in Soil Samples, Areas 1, 1A, 2 & 5, UOP Site, E. Rutherford, NJ.

Boring Number:	B5-9	B5-10		B5-11		B5-12	
Sample Depth:	8'-10'	0'-2'	4'-6'	0'-2'	10'-12'	0'-2'	6'-8'
Sample Type:	sat.	unsat.	sat.	unsat.	sat.	unsat.	sat.
Date Sampled:	10/30/86	10/31/86	10/31/86	10/31/86	10/31/86	11/3/86	11/3/86
[units: ug/kg (ppb)]							
chloromethane	<15	<16	<16	<17	<16	<18	<18
bromomethane	<15	<16	<16	<17	<16	<18	<18
vinyl chloride	<15	<16	<16	<17	<16	<18	<18
chloroethane	<15	<16	<16	<17	<16	<18	<18
methylene chloride	14B	<8	160B	58B	99B	8.4B	28B
acetone	290	<16	1100	<17	47	<18	530B
carbon disulfide	<7.5	<8	16	<8.5	1.9M	<9	<9
1,1-dichloroethene	<7.5	<8	<8	<8.5	<8	<9	<9
1,1-dichloroethane	<7.5	<8	<8	<8.5	<8	<9	<9
trans-1,2-dichloroethene	<7.5	<8	<8	<8.5	<8	<9	<9
chloroform	<7.5	<8	<8	<8.5	<8	<9	<9
1,2-dichloroethane	<7.5	<8	<8	<8.5	<8	<9	<9
2-butanone	<15	<16	<16	<17	<16	<18	<18
1,1,1-trichloroethane	<7.5	<8	<8	<8.5	<8	<9	<9
carbon tetrachloride	<7.5	<8	<8	<8.5	<8	<9	<9
vinyl acetate	<15	<16	<16	<17	<16	<18	<18
bromodichloromethane	<7.5	<8	<8	<8.5	<8	<9	<9
1,2-dichloropropane	<7.5	<8	<8	<8.5	<8	<9	<9
trans-1,3-dichloropropene	<7.5	<8	<8	<8.5	<8	<9	<9
trichloroethene	<7.5	<8	<8	<8.5	<8	<9	<9
dibromochloromethane	<7.5	<8	<8	<8.5	<8	<9	<9
1,1,2-trichloroethane	<7.5	<8	<8	<8.5	<8	<9	<9
benzene	<7.5	<8	<8	<8.5	<8	<9	<9
cis-1,3-dichloropropene	<7.5	<8	<8	<8.5	<8	<9	<9
2-chloroethylvinylether	<15	<16	<16	<17	<16	<18	<18
bromoform	<7.5	<8	<8	<8.5	<8	<9	<9
4-methyl-2-pentanone	<15	<16	<16	<17	<16	<18	<18
2-hexanone	<15	<16	<16	<17	<16	<18	<18
tetrachloroethene	<7.5	<8	23	<8.5	<8	<9	<9
1,1,2,2-tetrachloroethane	<7.5	<8	<8	<8.5	<8	<9	<9
toluene	1.7B	6.7B	29B	<8.5	<8	4.2B	3.6B
chlorobenzene	<7.5	<8	150	<8.5	<8	<9	<9
ethylbenzene	<7.5	<8	<8	<8.5	<8	<9	<9
styrene	<7.5	<8	<8	<8.5	<8	<9	<9
total xylenes	<7.5	<8	39	<8.5	<8	<9	<9
Conc./Dilution Factor	1.5	1.6	1.6	1.7	1.6	1.8	1.8

Table 2. Volatile Organics in Soil Samples, Areas 1, 1A, 2 & 5, UOP Site, E. Rutherford, NJ.

Boring Number:	B5-13		FIELD BLANK #1	FIELD BLANK #2	FIELD BLANK #3
Sample Depth:	0'-2'	6'-8'			
Sample Type:	unsat.	sat.			
Date Sampled:	11/3/86	11/3/86	10/9/86	10/10/86	10/14/86
			(ug/L)	(ug/L)	(ug/L)
(units: ug/kg (ppb))					
chloromethane	<17	<16	<10	<10	<10
bromomethane	<17	<16	<10	<10	<10
vinyl chloride	<17	<16	<10	<10	<10
chloroethane	<17	<16	<10	<10	<10
methylene chloride	54B	54B	17B	11	10
acetone	85B	86	43	1100	2800
carbon disulfide	<8.5	<8	<5	<5	<5
1,1-dichloroethene	<8.5	<8	<5	<5	<5
1,1-dichloroethane	<8.5	<8	<5	<5	<5
trans-1,2-dichloroethene	<8.5	<8	<5	<5	<5
chloroform	<8.5	<8	<5	<5	<5
1,2-dichloroethane	<8.5	<8	<5	<5	<5
2-butanone	<17	<16	<10	<10	<10
1,1,1-trichloroethane	<8.5	<8	<5	<5	<5
carbon tetrachloride	<8.5	<8	<5	<5	<5
vinyl acetate	<17	<16	<10	<10	<10
bromodichloromethane	<8.5	<8	<5	<5	<5
1,2-dichloropropane	<8.5	<8	<5	<5	<5
trans-1,3-dichloropropene	<8.5	<8	<5	<5	<5
trichloroethene	<8.5	<8	<5	<5	<5
dibromochloromethane	<8.5	<8	<5	<5	<5
1,1,2-trichloroethane	<8.5	<8	<5	<5	<5
benzene	<8.5	<8	<5	<5	<5
cis-1,3-dichloropropene	<8.5	<8	<5	<5	<5
2-chloroethylvinylether	<17	<16	<10	<10	<10
bromoform	<8.5	<8	<5	<5	<5
4-methyl-2-pentanone	<17	<16	<10	<10	<10
2-hexanone	<17	<16	<10	<10	<10
tetrachloroethene	<8.5	<8	<5	<5	<5
1,1,2,2-tetrachloroethane	<8.5	<8	<5	<5	<5
toluene	3.8B	1.6J	.57B	<5	<5
chlorobenzene	<8.5	<8	<5	<5	<5
ethylbenzene	<8.5	<8	<5	<5	<5
styrene	<8.5	<8	<5	<5	<5
total xylenes	<8.5	<8	<5	<5	<5
Conc./Dilution Factor	1.7	1.63	1	1	1.0

Table 2. Volatile Organics in Soil Samples, Areas 1, 1A, 2 & 5, UOP Site, E. Rutherford, NJ.

Boring Number:	FIELD BLANK #4	FIELD BLANK #5	FIELD BLANK #6	FIELD BLANK #7
Sample Depth:				
Sample Type:				
Date Sampled:	10/28/86	10/29/86	10/30/86	10/31/86
[units: ug/kg (ppb)]	(ug/L)	(ug/L)	(ug/L)	(ug/L)
chloromethane	<10	<10	<10	<10
bromomethane	<10	<10	<10	<10
vinyl chloride	<10	<10	<10	<10
chloroethane	<10	<10	<10	<10
methylene chloride	3.4B	4.3B	5.9B	7.6B
acetone	17	29	21	<10
carbon disulfide	.75M	<5	<5	<5
1,1-dichloroethene	<5	<5	<5	<5
1,1-dichloroethane	<5	<5	<5	<5
trans-1,2-dichloroethene	<5	<5	<5	<5
chloroform	<5	<5	<5	<5
1,2-dichloroethane	<5	<5	<5	<5
2-butanone	<10	<10	<10	<10
1,1,1-trichloroethane	<5	<5	<5	<5
carbon tetrachloride	<5	<5	<5	<5
vinyl acetate	<10	<10	<10	<10
bromodichloromethane	<5	<5	<5	<5
1,2-dichloropropane	<5	<5	<5	<5
trans-1,3-dichloropropene	<5	<5	<5	<5
trichloroethene	<5	<5	<5	<5
dibromochloromethane	<5	<5	<5	<5
1,1,2-trichloroethane	<5	<5	<5	<5
benzene	.36M	<5	<5	<5
cis-1,3-dichloropropene	<5	<5	<5	<5
2-chloroethylvinylether	<10	<10	<10	<10
bromoform	<5	<5	<5	<5
4-methyl-2-pentanone	<10	<10	<10	<10
2-hexanone	<10	<10	<10	<10
tetrachloroethene	<5	<5	<5	<5
1,1,2,2-tetrachloroethane	<5	<5	<5	<5
toluene	1.5B	.99B	.91B	3.5J
chlorobenzene	<5	<5	<5	<5
ethylbenzene	<5	<5	<5	<5
styrene	<5	<5	<5	<5
total xylenes	<5	<5	<5	<5
Conc./Dilution Factor	1.0	1.0	1.0	1.0

Table 2. Volatile Organics in Soil Samples, Areas 1, 1A, 2 & 5, UOP Site, E. Rutherford, NJ.

Boring Number:	FIELD BLANK #8	FIELD BLANK	TRIP BLANK #1	TRIP BLANK #2	TRIP BLANK #3
Sample Depth:		ERT			
Sample Type:					
Date Sampled:	11/3/86	10/13/86			
	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
[units: ug/kg (ppb)]					
chloromethane	<10	<10	<10	<10	<10
bromomethane	<10	<10	<10	<10	<10
vinyl chloride	<10	<10	<10	<10	<10
chloroethane	<10	<10	<10	<10	<10
methylene chloride	6.1B	7.0B	2.2B	1.2J	3.4J
acetone	<10	21	<5	31	<10
carbon disulfide	<5	<5	<5	<5	<5
1,1-dichloroethene	<5	<5	<5	<5	<5
1,1-dichloroethane	<5	<5	<5	<5	<5
trans-1,2-dichloroethene	<5	<5	<5	<5	<5
chloroform	<5	<5	<5	<5	<5
1,2-dichloroethane	<5	<5	<5	<5	<5
2-butanone	<10	<10	<10	<10	<10
1,1,1-trichloroethane	<5	<5	<5	<5	<5
carbon tetrachloride	<5	<5	<5	<5	<5
vinyl acetate	<10	<10	<10	<10	<10
bromodichloromethane	<5	<5	<5	<5	<5
1,2-dichloropropane	<5	<5	<5	<5	<5
trans-1,3-dichloropropene	<5	<5	<5	<5	<5
trichloroethene	<5	<5	<5	<5	<5
dibromochloromethane	<5	<5	<5	<5	<5
1,1,2-trichloroethane	<5	<5	<5	<5	<5
benzene	<5	<5	<5	<5	<5
cis-1,3-dichloropropene	<5	<5	<5	<5	<5
2-chloroethylvinylether	<10	<10	<10	<10	<10
bromoform	<5	<5	<5	<5	<5
4-methyl-2-pentanone	<10	<10	<10	<10	<10
2-hexanone	<10	<10	<10	<10	<10
tetrachloroethene	<5	<5	<5	<5	<5
1,1,2,2-tetrachloroethane	<5	<5	<5	<5	<5
toluene	<5	<5	<5	<5	<5
chlorobenzene	<5	<5	<5	<5	<5
ethylbenzene	<5	<5	<5	<5	<5
styrene	<5	<5	<5	<5	<5
total xylenes	<5	<5	<5	<5	<5
Conc./Dilution Factor	1.0	1.0	1	1	1.0

Table 2. Volatile Organics in Soil Samples, Areas 1, 1A, 2 & 5, UOP Site, E. Rutherford, NJ.

Boring Number:	TRIP BLANK #4	TRIP BLANK #5	TRIP BLANK #6	TRIP BLANK
Sample Depth:				ERT
Sample Type:				
Date Sampled:	10/29/86	10/29/86	11/3/86	
[units: ug/kg (ppb)]	(ug/L)	(ug/L)	(ug/L)	(ug/L)
chloromethane	<10	<10	<10	<10
bromomethane	<10	<10	<10	<10
vinyl chloride	<10	<10	<10	<10
chloroethane	<10	<10	<10	<10
methylene chloride	1.1J	5.4B	5.0B	13B
acetone	<10	<10	110	<10
carbon disulfide	<5	<5	<5	<5
1,1-dichloroethene	<5	<5	<5	<5
1,1-dichloroethane	<5	<5	<5	<5
trans-1,2-dichloroethene	<5	<5	<5	<5
chloroform	<5	<5	<5	<5
1,2-dichloroethane	<5	<5	<5	<5
2-butanone	<10	<10	<10	<10
1,1,1-trichloroethane	<5	<5	<5	<5
carbon tetrachloride	<5	<5	<5	<5
vinyl acetate	<10	<10	<10	<10
bromodichloromethane	<5	<5	<5	<5
1,2-dichloropropane	<5	<5	<5	<5
trans-1,3-dichloropropene	<5	<5	<5	<5
trichloroethene	<5	<5	<5	<5
dibromochloromethane	<5	<5	<5	<5
1,1,2-trichloroethane	<5	<5	<5	<5
benzene	<5	<5	<5	<5
cis-1,3-dichloropropene	<5	<5	<5	<5
2-chloroethylvinylether	<10	<10	<10	<10
bromoform	<5	<5	<5	<5
4-methyl-2-pentanone	<10	<10	<10	<10
2-hexanone	<10	<10	<10	<10
tetrachloroethene	<5	<5	<5	<5
1,1,2,2-tetrachloroethane	<5	<5	<5	<5
toluene	2.4B	<5	<5	1.2J
chlorobenzene	<5	<5	<5	<5
ethylbenzene	<5	<5	<5	<5
styrene	<5	<5	<5	<5
total xylenes	<5	<5	<5	<5
Conc./Dilution Factor	1.0	1.0	1.0	1.0

Table 3. Base/Neutral and Acid Extractable Organic Compounds in Soil Samples Collected from Areas 1A & 5, October-November 1986, UOP Site, East Rutherford,New Jersey.

Data Reporting Qualifiers

< Indicates compound was analyzed for but not detected. The number is the minimum attainable detection limit for the sample.

B - This flag indicates the compound was found in the blank as well as the sample. It indicates possible/probable blank contamination and warns the data user to take appropriate action.

D - Coelution

J - This flag indicates an estimated value. It is used either when estimating a concentration for tentatively indentified compounds where a 1:1 response is assumed or when the mass spectral data indicated the presence of a compound that meets the identification criteria but the result is less than the specified detection limit but greater than zero (e.g., 10J). If limit of detection is 10 ug/L and a concentration of 3 ug/L is calculated, report as 3J.

Conc./Dilution Factor - Depending on sample composition, and instrumental requirements, volumes were changed prior to analysis. The results reported in these tables are corrected for those volume changes and reflect the concentration in the sample bottle before laboratory processing. The concentration/dilution factors are listed to provide the information needed to calculate the fraction of reported values that are due to the presence of contaminants in laboratory blanks.

Laboratory: ERCO, Division of ENSECO, 205 Alewife Brook Parkway, Cambridge, Massachusetts 02138.

Table 3. Base/Neutral & Acid Extractable Compounds in Soil Samples, Areas 1A & 5, UOP Site, E. Rutherford, NJ.

Boring Number:	B1A-1		B1A-2		B1A-3	
Sample Depth:	0'-2'	2'-4'	0'-2'	2'-4'	0'-2'	4'-6'
Sample Type:	unsat.	sat.	unsat.	sat.	unsat.	sat.
Date Sampled:	10/10/86	10/10/86	10/10/86	10/10/86	10/10/86	10/10/86

[units: ug/kg (ppb)]

phenol	<840	1200	<13000	6700J	<540	<1700
bis-(2-chloroethyl)ether	<840	<410	<13000	<15000	<540	<1700
2-chlorophenol	<840	<410	<13000	<15000	<540	950J
1,3-dichlorobenzene	<840	<410	<13000	<15000	1600	4900
1,4-dichlorobenzene	<840	<410	<13000	5300J	5700	13000
benzyl alcohol	<840	400J	<13000	51000	<540	<1700
1,2-dichlorobenzene	<840	<410	3100J	7700J	43000	24000
2-methylphenol	<840	440	<13000	<15000	<540	<1700
bis(2-chloroisopropyl)ether	<840	<410	<13000	<15000	<540	<1700
4-methylphenol	<840	2600	<13000	210000	<540	<1700
n-nitroso-di-n-propylamine	<840	<410	<13000	<15000	<540	<1700
hexachloroethane	<840	<410	<13000	<15000	<540	<1700
nitrobenzene	<840	<410	<13000	<15000	<540	<1700
isophorone	<840	<410	<13000	<15000	<540	<1700
2-nitrophenol	<840	<410	<13000	<15000	<540	<1700
2,4-dimethylphenol	<840	<410	<13000	<15000	<540	<1700
benzoic acid	<840	1900	<13000	<15000	<540	<1700
bis(2-chloroethoxy)methane	<840	<410	<13000	<15000	<540	<1700
2,4-dichlorophenol	<840	<410	<13000	<15000	<540	<1700
1,2,4-trichlorobenzene	<840	<410	14000	64000	2200	<1700
naphthalene	<840	<410	<13000	<15000	1100	11000
4-chloroaniline	<840	<410	<13000	<15000	<540	<1700
hexachlorobutadiene	<840	<410	<13000	<15000	<540	<1700
4-chloro-3-methylphenol	<840	<410	<13000	<15000	<540	<1700
2-methylnaphthalene	<840	<410	<13000	<15000	3700	1100J
hexachlorocyclopentadiene	<840	<410	<13000	<15000	<540	<1700
2,4,6-trichlorophenol	<840	<410	<13000	<15000	<540	<1700
2,4,5-trichlorophenol	<840	<410	<13000	<15000	<540	<1700
2-chloronaphthalene	<840	<410	<13000	<15000	<540	<1700
2-nitroaniline	<840	<410	<13000	<15000	<540	<1700
dimethyl phthalate	<840	<410	<13000	<15000	<540	<1700
acenapthylene	<840	<410	<13000	<15000	<540	<1700
3-nitroaniline	<840	<410	<13000	<15000	<540	<1700
acenaphthene	<840	<410	<13000	<15000	<540	<1700
2,4-dinitrophenol	<840	<410	<13000	<15000	<540	<1700
4-nitrophenol	<840	<410	<13000	<15000	<540	<1700
dibenzofuran	<840	<410	<13000	<15000	<540	<1700
2,4-dinitrotoluene	<840	<410	<13000	<15000	<540	<1700
2,6-dinitrotoluene	<840	<410	<13000	<15000	<540	<1700
diethylphthalate	<840	<410	<13000	<15000	<540	<1700
4-chlorophenyl-phenylether	<840	<410	<13000	<15000	<540	<1700
fluorene	<840	<410	<13000	<15000	<540	<1700
4-nitroaniline	<840	<410	<13000	<15000	<540	<1700
4,6-dinitro-2-methylphenol	<840	<410	<13000	<15000	<540	<1700
n-nitrosodiphenylamine(1)	530B	190	<13000	10000B	380B	1100B
4-bromophenyl-phenylether	<840	<410	<13000	<15000	<540	1700
hexachlorobenzene	120J	<410	<13000	<15000	<540	<1700
pentachlorophenol	<840	<410	<13000	<15000	<540	<1700

Table 3. Base/Neutral & Acid Extractable Compounds in Soil Samples, Areas 1A & 5, UOP Site, E. Rutherford, NJ.

Boring Number:	B1A-1		B1A-2		B1A-3	
Sample Depth:	0'-2'	2'-4'	0'-2'	2'-4'	0'-2'	4'-6'
Sample Type:	unsat.	sat.	unsat.	sat.	unsat.	sat.
Date Sampled:	10/10/86	10/10/86	10/10/86	10/10/86	10/10/86	10/10/86
[units: ug/kg (ppb)]						
phenanthrene	<840	<410	<13000	<15000	270J	<1700
anthracene	<840	<410	<13000	<15000	<540	<1700
di-n-butylphthalate	<840	<410	<13000	<15000	<540	<1700
fluoranthene	<840	<410	<13000	<15000	330J	<1700
pyrene	<840	<410	<13000	<15000	360J	<1700
butylbenzylphthalate	<840	<410	<13000	<15000	<540	<1700
3,3-dichlorobenzidine	<840	<410	<13000	<15000	<540	<1700
benzo(a)anthracene	<840	<410	<13000	<15000	<540	<1700
bis(2-ethylhexyl)phthalate	1600	500	<13000	42000	2200	1000J
chrysene	<840	<410	<13000	<15000	<540	<1700
di-n-octyl phthalate	<840	<410	<13000	<15000	<540	<1700
benzo(b)fluoroanthene	<840	<410	<13000	<15000	380D	<1700
benzo(k)fluoranthene	<840	<410	<13000	<15000	380D	<1700
benzo(a)pyrene	<840	<410	<13000	<15000	220J	<1700
indeno(1,2,3-c,d)pyrene	<840	<410	<13000	<15000	180J	<1700
dibenzo (a,h)anthracene	<840	<410	<13000	<15000	<540	<1700
benzo(g,h,i)perylene	<840	<410	<13000	<15000	180J	<1700
Conc./Dilution Factor	2	1	27	22.5	1	1

Table 3. Base/Neutral & Acid Extractable Compounds in Soil Samples, Areas 1A & 5, UOP Site, E. Rutherford, NJ.

Boring Number:	B1A-4		B1A-5		B1A-6	
Sample Depth:	0'-2'	2'-4'	0'-2'	2'-4'	0'-2'	4'-6'
Sample Type:	unsat.	sat.	unsat.	sat.	unsat.	sat.
Date Sampled:	10/10/86	10/10/86	10/10/86	10/10/86	10/10/86	10/10/86

[units: ug/kg (ppb)]

phenol	<3800	<24000	<2700	<1900	<940	<20000
bis-(2-chloroethyl)ether	<3800	<24000	<2700	<1900	<940	<20000
2-chlorophenol	<3800	<24000	<2700	<1900	<940	<20000
1,3-dichlorobenzene	2300J	33000	<2700	<1900	<940	<20000
1,4-dichlorobenzene	9000	130000	<2700	290J	<940	<20000
benzyl alcohol	<3800	<24000	9700	<1900	450J	<20000
1,2-dichlorobenzene	61000	630000	1400J	410J	<940	<20000
2-methylphenol	<3800	<24000	<2700	<1900	<940	2900J
bis(2-chloroisopropyl)ether	<3800	<24000	<2700	<1900	<940	<20000
4-methylphenol	<3800	<24000	<2700	<1900	250J	18000J
n-nitroso-di-n-propylamine	<3800	<24000	<2700	<1900	<940	<20000
hexachloroethane	<3800	<24000	<2700	<1900	<940	<20000
nitrobenzene	<3800	<24000	<2700	<1900	<940	<20000
isophorone	<3800	<24000	<2700	<1900	<940	<20000
2-nitrophenol	<3800	<24000	<2700	<1900	<940	<20000
2,4-dimethylphenol	<3800	<24000	<2700	<1900	<940	<20000
benzoic acid	<3800	<24000	150000	2600	<940	<20000
bis(2-chloroethoxy)methane	<3800	<24000	<2700	<1900	<940	<20000
2,4-dichlorophenol	<3800	<24000	<2700	<1900	<940	<20000
1,2,4-trichlorobenzene	2100J	25000	<2700	<1900	<940	<20000
naphthalene	460J	3600J	<2700	210J	<940	<20000
4-chloroaniline	<3800	<24000	<2700	<1900	<940	<20000
hexachlorobutadiene	<3800	<24000	<2700	<1900	<940	<20000
4-chloro-3-methylphenol	<3800	<24000	<2700	<1900	<940	<20000
2-methylnaphthalene	<3800	3600	<2700	<1900	<940	<20000
hexachlorocyclopentadiene	<3800	<24000	<2700	<1900	<940	<20000
2,4,6-trichlorophenol	<3800	<24000	<2700	<1900	<940	<20000
2,4,5-trichlorophenol	<3800	<24000	<2700	<1900	<940	<20000
2-chloronaphthalene	<3800	<24000	<2700	<1900	<940	<20000
2-nitroaniline	<3800	<24000	<2700	<1900	<940	<20000
dimethyl phthalate	<3800	<24000	<2700	<1900	<940	<20000
acenapthylene	<3800	<24000	<2700	<1900	<940	<20000
3-nitroaniline	<3800	<24000	<2700	<1900	<940	<20000
acenaphthene	<3800	<24000	<2700	<1900	<940	<20000
2,4-dinitrophenol	<3800	<24000	<2700	<1900	<940	<20000
4-nitrophenol	<3800	<24000	<2700	<1900	<940	<20000
dibenzofuran	<3800	<24000	<2700	<1900	<940	<20000
2,4-dinitrotoluene	<3800	<24000	<2700	<1900	<940	<20000
2,6-dinitrotoluene	<3800	<24000	<2700	<1900	<940	<20000
diethylphthalate	<3800	<24000	<2700	250J	<940	<20000
4-chlorophenyl-phenylether	<3800	<24000	<2700	<1900	<940	<20000
fluorene	<3800	<24000	<2700	<1900	<940	<20000
4-nitroaniline	<3800	<24000	<2700	<1900	<940	<20000
4,6-dinitro-2-methylphenol	<3800	<24000	<2700	<1900	<940	<20000
n-nitrosodiphenylamine(1)	880B	9200B	<2700	1000B	210J	4400J
4-bromophenyl-phenylether	<3800	<24000	<2700	<1900	<940	<20000
hexachlorobenzene	<3800	<24000	<2700	<1900	<940	<20000
pentachlorophenol	<3800	<24000	<2700	<1900	130J	<20000

Table 3. Base/Neutral & Acid Extractable Compounds in Soil Samples, Areas 1A & 5, UOP Site, E. Rutherford, NJ.

Boring Number:	B1A-4		B1A-5		B1A-6	
Sample Depth:	0'-2'	2'-4'	0'-2'	2'-4'	0'-2'	4'-6'
Sample Type:	unsat.	sat.	unsat.	sat.	unsat.	sat.
Date Sampled:	10/10/86	10/10/86	10/10/86	10/10/86	10/10/86	10/10/86
[units: ug/kg (ppb)]						
phenanthrene	<3800	<24000	<2700	<1900	<940	<20000
anthracene	<3800	<24000	<2700	<1900	<940	<20000
di-n-butylphthalate	<3800	<24000	<2700	<1900	<940	<20000
fluoranthene	<3800	<24000	<2700	<1900	<940	<20000
pyrene	<3800	<24000	<2700	<1900	<940	<20000
butylbenzylphthalate	<3800	<24000	<2700	<1900	<940	<20000
3,3-dichlorobenzidine	<3800	<24000	<2700	<1900	<940	<20000
benzo(a)anthracene	<3800	<24000	<2700	<1900	<940	<20000
bis(2-ethylhexyl)phthalate	5300	59000	17000	770J	1500B	2700B
chrysene	<3800	<24000	<2700	<1900	<940	<20000
di-n-octyl phthalate	<3800	<24000	<2700	<1900	<940	<20000
benzo(b)fluoroanthene	<3800	<24000	<2700	<1900	<940	<20000
benzo(k)fluoranthene	<3800	<24000	<2700	<1900	<940	<20000
benzo(a)pyrene	<3800	<24000	<2700	<1900	<940	<20000
indeno(1,2,3-c,d)pyrene	<3800	<24000	<2700	<1900	<940	<20000
dibenzo (a,h)anthracene	<3800	<24000	<2700	<1900	<940	<20000
benzo(g,h,i)perylene	<3800	<24000	<2700	<1900	<940	<20000
Conc./Dilution Factor	9	40	6	4	1	10

Table 3. Base/Neutral & Acid Extractable Compounds in Soil Samples, Areas 1A & 5, UOP Site, E. Rutherford, NJ.

Boring Number:	B1A-7		B1A-8		B5-1	
Sample Depth:	0'-2'	4'-6'	0'-2'	2'-4'	0'-2'	2'-4'
Sample Type:	unsat.	sat.	unsat.	sat.	unsat.	sat.
Date Sampled:	10/10/86	10/10/86	10/10/86	10/10/86	10/28/86	10/28/86

[units: ug/kg (ppb)]

phenol	<1200	<400	<330	<5900	<470	<580
bis-(2-chloroethyl)ether	<1200	<400	<330	<5900	<470	<580
2-chlorophenol	<1200	<400	<330	<5900	<470	<580
1,3-dichlorobenzene	<1200	<400	22J	<5900	<470	<580
1,4-dichlorobenzene	<1200	<400	120J	<5900	<470	<580
benzyl alcohol	<1200	<400	<330	<5900	<470	<580
1,2-dichlorobenzene	<1200	<400	82J	<5900	<470	<580
2-methylphenol	<1200	<400	<330	<5900	<470	<580
bis(2-chloroisopropyl)ether	<1200	<400	<330	<5900	<470	<580
4-methylphenol	<1200	<400	<330	<5900	<470	<580
n-nitroso-di-n-propylamine	<1200	<400	<330	<5900	<470	<580
hexachloroethane	<1200	<400	<330	<5900	<470	<580
nitrobenzene	<1200	<400	<330	<5900	<470	<580
isophorone	<1200	<400	<330	<5900	<470	<580
2-nitrophenol	<1200	<400	<330	<5900	<470	<580
2,4-dimethylphenol	<1200	<400	<330	<5900	<470	<580
benzoic acid	<1200	<400	<330	<5900	<470	<580
bis(2-chloroethoxy)methane	<1200	<400	<330	<5900	<470	<580
2,4-dichlorophenol	<1200	<400	<330	<5900	<470	<580
1,2,4-trichlorobenzene	<1200	<400	2200	<5900	<470	<580
naphthalene	<1200	52J	<330	5600J	<470	240J
4-chloroaniline	<1200	<400	<330	<5900	<470	<580
hexachlorobutadiene	<1200	<400	<330	<5900	<470	<580
4-chloro-3-methylphenol	<1200	<400	<330	<5900	<470	<580
2-methylnaphthalene	<1200	<400	<330	1100J	<470	99J
hexachlorocyclopentadiene	<1200	<400	<330	<5900	<470	<580
2,4,6-trichlorophenol	<1200	<400	<330	<5900	<470	<580
2,4,5-trichlorophenol	<1200	<400	<330	<5900	<470	<580
2-chloronaphthalene	<1200	<400	<330	<5900	<470	<580
2-nitroaniline	<1200	<400	<330	<5900	<470	<580
dimethyl phthalate	<1200	<400	<330	<5900	<470	<580
acenapthylene	<1200	<400	<330	<5900	<470	<580
3-nitroaniline	<1200	<400	<330	<5900	<470	<580
acenaphthene	<1200	<400	<330	<5900	<470	1100
2,4-dinitrophenol	<1200	<400	<330	<5900	<470	<580
4-nitrophenol	<1200	<400	<330	<5900	<470	<580
dibenzofuran	<1200	<400	<330	<5900	<470	610
2,4-dinitrotoluene	<1200	<400	<330	<5900	<470	<580
2,6-dinitrotoluene	<1200	<400	<330	<5900	<470	<580
diethylphthalate	<1200	<400	<330	<5900	<470	<580
4-chlorophenyl-phenylether	<1200	<400	<330	<5900	<470	<580
fluorene	<1200	<400	<330	<5900	<470	980
4-nitroaniline	<1200	<400	<330	<5900	<470	<580
4,6-dinitro-2-methylphenol	<1200	<400	<330	<5900	<470	<580
n-nitrosodiphenylamine(1)	<1200	<400	180J	4000B	280B	430B
4-bromophenyl-phenylether	<1200	<400	<330	<5900	<470	<580
hexachlorobenzene	<1200	<400	<330	<5900	<470	<580
pentachlorophenol	<1200	<400	<330	<5900	57J	<580

Table 3. Base/Neutral & Acid Extractable Compounds in Soil Samples, Areas 1A & 5, UOP Site, E. Rutherford, NJ.

Boring Number:	B1A-7		B1A-8		B5-1	
Sample Depth:	0'-2'	4'-6'	0'-2'	2'-4'	0'-2'	2'-4'
Sample Type:	unsat.	sat.	unsat.	sat.	unsat.	sat.
Date Sampled:	10/10/86	10/10/86	10/10/86	10/10/86	10/28/86	10/28/86
[units: ug/kg (ppb)]						
phenanthrene	<1200	<400	<330	<5900	130J	6800
anthracene	<1200	<400	<330	<5900	<470	1300
di-n-butylphthalate	<1200	<400	<330	<5900	<470	<580
fluoranthene	230J	<400	<330	<5900	370J	8800
pyrene	160J	<400	<330	<5900	260J	7000
butylbenzylphthalate	<1200	<400	<330	<5900	<470	<580
3,3-dichlorobenzidine	<1200	<400	<330	<5900	<470	<580
benzo(a)anthracene	<1200	<400	<330	<5900	170J	3700
bis(2-ethylhexyl)phthalate	3200B	1400B	540	1300	130J	93J
chrysene	<1200	<400	<330	<5900	160J	3000
di-n-octyl phthalate	<1200	<400	<330	<5900	<470	<580
benzo(b)fluoroanthene	200D	<400	<330	<5900	290D	5100D
benzo(k)fluoranthene	200D	<400	<330	<5900	290D	5100D
benzo(a)pyrene	<1200	<400	<330	<5900	180J	3300
indeno(1,2,3-c,d)pyrene	<1200	<400	<330	<5900	85J	1500
dibenzo (a,h)anthracene	<1200	<400	<330	<5900	<470	340J
benzo(g,h,i)perylene	<1200	<400	<330	<5900	76J	1200
Conc./Dilution Factor	3	1	1	1	6.3	12.7

Table 3. Base/Neutral & Acid Extractable Compounds in Soil Samples, Areas 1A & 5, UOP Site, E. Rutherford, NJ.

Boring Number:	B5-2		B5-3		B5-4	
Sample Depth:	0'-2'	2'-4'	0'-2'	2'-4'	0'-2'	4'-6'
Sample Type:	unsat.	sat.	unsat.	sat.	unsat.	sat.
Date Sampled:	10/29/86	10/29/86	10/29/86	10/29/86	10/29/86	10/29/86

[units: ug/kg (ppb)]

phenol	<2600	<1500	<1900	<1600	<4000	<2600
bis-(2-chloroethyl)ether	<2600	<1500	<1900	<1600	<4000	<2600
2-chlorophenol	<2600	<1500	<1900	<1600	<4000	<2600
1,3-dichlorobenzene	<2600	<1500	<1900	560J	<4000	<2600
1,4-dichlorobenzene	<2600	<1500	<1900	2300	<4000	<2600
benzyl alcohol	650J	<1500	1100J	<1600	<4000	<2600
1,2-dichlorobenzene	2500J	<1500	1200J	3500	<4000	<2600
2-methylphenol	600J	<1500	<1900	<1600	<4000	<2600
bis(2-chloroisopropyl)ether	<2600	<1500	<1900	<1600	<4000	<2600
4-methylphenol	<2600	<1500	<1900	<1600	<4000	<2600
n-nitroso-di-n-propylamine	<2600	<1500	<1900	<1600	<4000	<2600
hexachloroethane	<2600	<1500	<1900	<1600	<4000	<2600
nitrobenzene	<2600	<1500	<1900	<1600	<4000	<2600
isophorone	<2600	<1500	<1900	<1600	<4000	<2600
2-nitrophenol	<2600	<1500	<1900	<1600	<4000	<2600
2,4-dimethylphenol	<2600	<1500	<1900	<1600	<4000	<2600
benzoic acid	<2600	750J	600J	<1600	1500J	<2600
bis(2-chloroethoxy)methane	<2600	<1500	<1900	<1600	<4000	<2600
2,4-dichlorophenol	<2600	<1500	<1900	<1600	<4000	<2600
1,2,4-trichlorobenzene	500J	<1500	<1900	<1600	<4000	<2600
naphthalene	<2600	<1500	<1900	<1600	<4000	<2600
4-chloroaniline	<2600	<1500	<1900	<1600	<4000	<2600
hexachlorobutadiene	2100J	<1500	<1900	<1600	<4000	<2600
4-chloro-3-methylphenol	<2600	<1500	<1900	<1600	<4000	<2600
2-methylnaphthalene	<2600	<1500	<1900	<1600	<4000	440J
hexachlorocyclopentadiene	<2600	<1500	<1900	<1600	<4000	<2600
2,4,6-trichlorophenol	<2600	<1500	<1900	<1600	<4000	<2600
2,4,5-trichlorophenol	<2600	<1500	<1900	<1600	<4000	<2600
2-chloronaphthalene	<2600	<1500	<1900	<1600	<4000	<2600
2-nitroaniline	<2600	<1500	<1900	<1600	<4000	<2600
dimethyl phthalate	<2600	<1500	<1900	<1600	<4000	<2600
acenapthylene	390J	<1500	<1900	<1600	520J	<2600
3-nitroaniline	<2600	<1500	<1900	<1600	<4000	<2600
acenaphthene	<2600	<1500	<1900	<1600	<4000	<2600
2,4-dinitrophenol	<2600	<1500	<1900	<1600	<4000	<2600
4-nitrophenol	<2600	<1500	<1900	<1600	<4000	<2600
dibenzofuran	<2600	<1500	<1900	<1600	<4000	<2600
2,4-dinitrotoluene	<2600	<1500	<1900	<1600	<4000	<2600
2,6-dinitrotoluene	<2600	<1500	<1900	<1600	<4000	<2600
diethylphthalate	<2600	<1500	<1900	<1600	<4000	<2600
4-chlorophenyl-phenylether	<2600	<1500	<1900	<1600	760J	<2600
fluorene	<2600	<1500	<1900	<1600	<4000	<2600
4-nitroaniline	<2600	<1500	<1900	<1600	<4000	<2600
4,6-dinitro-2-methylphenol	<2600	<1500	<1900	<1600	<4000	<2600
n-nitrosodiphenylamine(1)	2000B	930B	1100B	810B	5100B	970B
4-bromophenyl-phenylether	<2600	<1500	<1900	<1600	<4000	<2600
hexachlorobenzene	440J	<1500	<1900	<1600	<4000	<2600
pentachlorophenol	<2600	<1500	<1900	<1600	<4000	<2600

Table 3. Base/Neutral & Acid Extractable Compounds in Soil Samples, Areas 1A & 5, UOP Site, E. Rutherford, NJ.

Boring Number:	B5-2		B5-3		B5-4	
Sample Depth:	0'-2'	2'-4'	0'-2'	2'-4'	0'-2'	4'-6'
Sample Type:	unsat.	sat.	unsat.	sat.	unsat.	sat.
Date Sampled:	10/29/86	10/29/86	10/29/86	10/29/86	10/29/86	10/29/86
[units: ug/kg (ppb)]						
phenanthrene	810J	<1500	<1900	590J	<4000	<2600
anthracene	310J	<1500	<1900	<1600	<4000	<2600
di-n-butylphthalate	<2600	<1500	<1900	<1600	<4000	340J
fluoranthene	1600J	210J	<1900	160J	<4000	<2600
pyrene	1300J	150J	<1900	200J	<4000	<2600
butylbenzylphthalate	<2600	<1500	<1900	<1600	<4000	1100J
3,3-dichlorobenzidine	<2600	<1500	<1900	<1600	<4000	<2600
benzo(a)anthracene	970J	<1500	<1900	<1600	<4000	<2600
bis(2-ethylhexyl)phthalate	1200J	1900	2000	690000	6200	3900
chrysene	1200J	<1500	<1900	<1600	<4000	<2600
di-n-octyl phthalate	<2600	<1500	<1900	<1600	<4000	<2600
benzo(b)fluoroanthene	2300D	270D	1400D	<1600	<4000	<2600
benzo(k)fluoranthene	2300D	270D	1400D	<1600	<4000	<2600
benzo(a)pyrene	880J	170J	530J	<1600	<4000	<2600
indeno(1,2,3-c,d)pyrene	780J	<1500	400J	<1600	<4000	<2600
dibenzo (a,h)anthracene	<2600	<1500	<1900	<1600	<4000	<2600
benzo(g,h,i)perylene	760J	<1500	340J	<1600	<4000	<2600
Conc./Dilution Factor	4	1	4	3	20	4

Table 3. Base/Neutral & Acid Extractable Compounds in Soil Samples, Areas 1A & 5, UOP Site, E. Rutherford, NJ.

Boring Number:	B5-5		B5-6		B5-7	
Sample Depth:	0'-2'	4'-6'	0'-2'	2'-4'	0'-2'	2'-4'
Sample Type:	unsat.	sat.	unsat.	sat.	unsat.	sat.
Date Sampled:	10/29/86	10/29/86	10/29/86	10/29/86	10/29/86	10/29/86
[units: ug/kg (ppb)]						
phenol	<860	<2200	<450	<520	<1900	<1200
bis-(2-chloroethyl)ether	<860	<2200	<450	<520	<1900	<1200
2-chlorophenol	<860	<2200	<450	<520	<1900	<1200
1,3-dichlorobenzene	<860	<2200	<450	<520	<1900	<1200
1,4-dichlorobenzene	<860	<2200	<450	<520	<1900	<1200
benzyl alcohol	930	<2200	<450	<520	<1900	<1200
1,2-dichlorobenzene	540J	1700J	<450	<520	<1900	<1200
2-methylphenol	<860	<2200	<450	<520	<1900	<1200
bis(2-chloroisopropyl)ether	<860	<2200	<450	<520	<1900	<1200
4-methylphenol	250J	<2200	<450	<520	<1900	<1200
n-nitroso-di-n-propylamine	<860	<2200	<450	<520	<1900	<1200
hexachloroethane	<860	<2200	<450	<520	<1900	<1200
nitrobenzene	<860	<2200	<450	<520	<1900	<1200
isophorone	<860	<2200	<450	<520	<1900	<1200
2-nitrophenol	<860	<2200	<450	<520	<1900	<1200
2,4-dimethylphenol	<860	<2200	<450	<520	<1900	<1200
benzoic acid	<860	<2200	100J	<520	410J	<1200
bis(2-chloroethoxy)methane	<860	<2200	<450	<520	<1900	<1200
2,4-dichlorophenol	<860	<2200	<450	<520	<1900	<1200
1,2,4-trichlorobenzene	<860	<2200	<450	<520	<1900	<1200
naphthalene	<860	<2200	77J	57J	2700	5100
4-chloroaniline	<860	<2200	<450	<520	<1900	<1200
hexachlorobutadiene	<860	<2200	<450	<520	<1900	<1200
4-chloro-3-methylphenol	<860	<2200	<450	<520	<1900	<1200
2-methylnaphthalene	<860	<2200	<450	<520	580J	1100J
hexachlorocyclopentadiene	<860	<2200	<450	<520	<1900	<1200
2,4,6-trichlorophenol	<860	<2200	<450	<520	<1900	<1200
2,4,5-trichlorophenol	<860	<2200	<450	<520	<1900	<1200
2-chloronaphthalene	<860	<2200	<450	<520	<1900	<1200
2-nitroaniline	<860	<2200	<450	<520	<1900	<1200
dimethyl phthalate	<860	<2200	<450	<520	<1900	<1200
acenapthylene	<860	<2200	<450	<520	480J	430J
3-nitroaniline	<860	<2200	<450	<520	<1900	<1200
acenaphthene	<860	<2200	280J	130J	2300	3500
2,4-dinitrophenol	<860	<2200	<450	<520	<1900	<1200
4-nitrophenol	<860	<2200	<450	<520	<1900	<1200
dibenzofuran	<860	<2200	150J	62J	2300	3700
2,4-dinitrotoluene	<860	<2200	<450	<520	<1900	<1200
2,6-dinitrotoluene	<860	<2200	<450	<520	<1900	<1200
diethylphthalate	<860	<2200	<450	<520	<1900	<1200
4-chlorophenyl-phenylether	<860	<2200	<450	<520	<1900	<1200
fluorene	<860	<2200	270J	130J	3000	6500
4-nitroaniline	<860	<2200	<450	<520	<1900	<1200
4,6-dinitro-2-methylphenol	<860	<2200	<450	<520	<1900	<1200
n-nitrosodiphenylamine(1)	<860	830B	<450	836	410B	220B
4-bromophenyl-phenylether	<860	<2200	<450	<520	<1900	<1200
hexachlorobenzene	<860	<2200	<450	<520	<1900	<1200
pentachlorophenol	<860	<2200	<450	<520	<1900	<1200

Table 3. Base/Neutral & Acid Extractable Compounds in Soil Samples, Areas 1A & 5, UOP Site, E. Rutherford, NJ.

Boring Number:	B5-5		B5-6		B5-7	
Sample Depth:	0'-2'	4'-6'	0'-2'	2'-4'	0'-2'	2'-4'
Sample Type:	unsat.	sat.	unsat.	sat.	unsat.	sat.
Date Sampled:	10/29/86	10/29/86	10/29/86	10/29/86	10/29/86	10/29/86
[units: ug/kg (ppb)]						
phenanthrene	400J	<2200	1900	980	26000	18000
anthracene	190J	<2200	650	310J	6800J	7400
di-n-butylphthalate	<860	<2200	<450	<520	<1900	170J
fluoranthene	730J	<2200	2900	1400	37000	33000
pyrene	1000	<2200	2000	1700	21000	42000
butylbenzylphthalate	<860	<2200	<450	<520	<1900	<1200
3,3-dichlorobenzidine	<860	<2200	<450	<520	<1900	<1200
benzo(a)anthracene	490J	<2200	1400	1200	18000	19000
bis(2-ethylhexyl)phthalate	1600	5400	160J	1400	480J	1900
chrysene	810	<2200	1200	1100	15000	17000
di-n-octyl phthalate	<860	<2200	<450	<520	<1900	<1200
benzo(b)fluoroanthene	1000D	<2200	1900D	2000D	21000D	27000D
benzo(k)fluoranthene	1000D	<2200	1900D	2000D	21000D	27000D
benzo(a)pyrene	700J	<2200	1200	1200	14000	17000
indeno(1,2,3-c,d)pyrene	330J	<2200	870	1200	9900	12000
dibenzo (a,h)anthracene	<860	<2200	210J	320J	2700	2600
benzo(g,h,i)perylene	400J	<2200	680	1200	9100	9500
Conc./Dilution Factor	2	1	1	1	4	2

Table 3. Base/Neutral & Acid Extractable Compounds in Soil Samples, Areas 1A & 5, UOP Site, E. Rutherford, NJ.

Boring Number:	B5-8		B5-9		B5-10	
Sample Depth:	0'-2'	6'-8'	0'-2'	8'-10'	0'-2'	4'-6'
Sample Type:	unsat.	sat.	unsat.	sat.	unsat.	sat.
Date Sampled:	10/30/86	10/30/86	10/30/86	10/30/86	10/31/86	10/31/86
[units: ug/kg (ppb)]						
phenol	<1200	<1700	<910	<660	<9700	<26000
bis-(2-chloroethyl)ether	<1200	<1700	<910	<660	<9700	<26000
2-chlorophenol	<1200	<1700	<910	<660	<9700	<26000
1,3-dichlorobenzene	<1200	<1700	<910	<660	<9700	<26000
1,4-dichlorobenzene	<1200	<1700	<910	<660	<9700	<26000
benzyl alcohol	340J	<1700	<910	<660	<9700	<26000
1,2-dichlorobenzene	<1200	<1700	<910	<660	<9700	<26000
2-methylphenol	<1200	<1700	<910	<660	<9700	<26000
bis(2-chloroisopropyl)ether	<1200	<1700	<910	<660	<9700	<26000
4-methylphenol	<1200	<1700	<910	<660	<9700	<26000
n-nitroso-di-n-propylamine	<1200	<1700	<910	<660	<9700	<26000
hexachloroethane	<1200	<1700	<910	<660	<9700	<26000
nitrobenzene	<1200	<1700	<910	<660	<9700	<26000
isophorone	<1200	<1700	<910	<660	<9700	<26000
2-nitrophenol	<1200	<1700	<910	<660	<9700	<26000
2,4-dimethylphenol	<1200	<1700	<910	<660	<9700	<26000
benzoic acid	<1200	2200	580J	<660	1100000	8500000
bis(2-chloroethoxy)methane	<1200	<1700	<910	<660	<9700	<26000
2,4-dichlorophenol	<1200	<1700	<910	<660	<9700	<26000
1,2,4-trichlorobenzene	<1200	<1700	<910	<660	<9700	<26000
naphthalene	470J	250J	<910	4200	<9700	<26000
4-chloroaniline	<1200	<1700	<910	<660	<9700	<26000
hexachlorobutadiene	<1200	<1700	<910	<660	<9700	<26000
4-chloro-3-methylphenol	<1200	<1700	<910	<660	<9700	<26000
2-methylnaphthalene	<1200	<1700	<910	2000	<9700	<26000
hexachlorocyclopentadiene	<1200	<1700	<910	<660	<9700	<26000
2,4,6-trichlorophenol	<1200	<1700	<910	<660	<9700	<26000
2,4,5-trichlorophenol	<1200	<1700	<910	<660	<9700	<26000
2-chloronaphthalene	<1200	<1700	<910	<660	<9700	<26000
2-nitroaniline	<1200	<1700	<910	<660	<9700	<26000
dimethyl phthalate	<1200	<1700	<910	<660	<9700	<26000
acenapthylene	<1200	<1700	<910	130J	<9700	<26000
3-nitroaniline	<1200	<1700	<910	<660	<9700	<26000
acenaphthene	500J	440J	100J	1900	<9700	<26000
2,4-dinitrophenol	<1200	<1700	<910	<660	<9700	<26000
4-nitrophenol	<1200	<1700	<910	<660	<9700	<26000
dibenzofuran	300J	220J	<910	1300	<9700	<26000
2,4-dinitrotoluene	<1200	<1700	<910	<660	<9700	<26000
2,6-dinitrotoluene	<1200	<1700	<910	<660	<9700	<26000
diethylphthalate	<1200	<1700	<910	<660	<9700	<26000
4-chlorophenyl-phenylether	<1200	<1700	<910	<660	<9700	<26000
fluorene	490J	360J	92J	1600	<9700	<26000
4-nitroaniline	<1200	<1700	<910	<660	<9700	<26000
4,6-dinitro-2-methylphenol	<1200	<1700	<910	<660	<9700	<26000
n-nitrosodiphenylamine(1)	11000B	1400B	<910	<660	7100B	15000B
4-bromophenyl-phenylether	<1200	<1700	<910	<660	<9700	<26000
hexachlorobenzene	<1200	<1700	<910	<660	<9700	<26000
pentachlorophenol	<1200	<1700	<910	<660	<9700	<26000

Table 3. Base/Neutral & Acid Extractable Compounds in Soil Samples, Areas 1A & 5, UOP Site, E. Rutherford, NJ.

Boring Number:	B5-8		B5-9		B5-10	
Sample Depth:	0'-2'	6'-8'	0'-2'	8'-10'	0'-2'	4'-6'
Sample Type:	unsat.	sat.	unsat.	sat.	unsat.	sat.
Date Sampled:	10/30/86	10/30/86	10/30/86	10/30/86	10/31/86	10/31/86
[units: ug/kg (ppb)]						
phenanthrene	4900	2700	750J	8500	<9700	<26000
anthracene	1000J	800J	240J	1500	<9700	<26000
di-n-butylphthalate	<1200	<1700	<910	<660	<9700	<26000
fluoranthene	5400	3100	1900	2500	1700J	<26000
pyrene	5500	4600	1600	1500	1800J	<26000
butylbenzylphthalate	<1200	<1700	<910	<660	<9700	<26000
3,3-dichlorobenzidine	<1200	<1700	<910	<660	<9700	<26000
benzo(a)anthracene	2700	2300	1000	700	1100J	<26000
bis(2-ethylhexyl)phthalate	1300	2100	540J	340J	970J	<26000
chrysene	3000	2000	1200	620J	1400J	<26000
di-n-octyl phthalate	<1200	<1700	<910	<660	<9700	<26000
benzo(b)fluoroanthene	4800D	220D	2200D	590D	1700D	<26000
benzo(k)fluoranthene	4800D	220D	2200D	590D	1700D	<26000
benzo(a)pyrene	2900	1600J	1300	340J	1300J	<26000
indeno(1,2,3-c,d)pyrene	1400	1400J	700J	220J	<9700	<26000
dibenzo (a,h)anthracene	340J	190J	160J	73J	<9700	<26000
benzo(g,h,i)perylene	1100J	1400J	600J	190J	970J	<26000
Conc./Dilution Factor	2	2	1	1	10	45

Table 3. Base/Neutral & Acid Extractable Compounds in Soil Samples, Areas 1A & 5, UOP Site, E. Rutherford, NJ.

Boring Number:	B5-11		B5-12		B5-13	
Sample Depth:	0'-2'	10'-12'	0'-2'	6'-8'	0'-2'	6'-8'
Sample Type:	unsat.	sat.	unsat.	sat.	unsat.	sat.
Date Sampled:	10/31/86	10/31/86	11/3/86	11/3/86	11/3/86	11/3/86

[units: ug/kg (ppb)]

phenol	<2700	<470	<2500	<2500	<26000	<2900
bis-(2-chloroethyl)ether	<2700	<470	<2500	<2500	<26000	<2900
2-chlorophenol	<2700	<470	<2500	<2500	<26000	<2900
1,3-dichlorobenzene	<2700	<470	<2500	<2500	<26000	<2900
1,4-dichlorobenzene	<2700	<470	<2500	<2500	<26000	<2900
benzyl alcohol	<2700	<470	<2500	<2500	<26000	<2900
1,2-dichlorobenzene	<2700	<470	<2500	<2500	<26000	<2900
2-methylphenol	<2700	<470	<2500	<2500	<26000	<2900
bis(2-chloroisopropyl)ether	<2700	<470	<2500	<2500	<26000	<2900
4-methylphenol	<2700	<470	<2500	<2500	<26000	<2900
n-nitroso-di-n-propylamine	<2700	<470	<2500	<2500	<26000	<2900
hexachloroethane	<2700	<470	<2500	<2500	<26000	<2900
nitrobenzene	<2700	<470	<2500	<2500	<26000	<2900
isophorone	<2700	<470	<2500	<2500	<26000	<2900
2-nitrophenol	<2700	<470	<2500	<2500	<26000	<2900
2,4-dimethylphenol	<2700	<470	<2500	<2500	<26000	<2900
benzoic acid	20000	<470	<2500	600J	500J	1300J
bis(2-chloroethoxy)methane	<2700	<470	<2500	<2500	<26000	<2900
2,4-dichlorophenol	<2700	<470	<2500	<2500	<26000	<2900
1,2,4-trichlorobenzene	<2700	<470	<2500	<2500	<26000	<2900
naphthalene	<2700	<470	<2500	<2500	<26000	<2900
4-chloroaniline	<2700	<470	<2500	<2500	<26000	<2900
hexachlorobutadiene	<2700	<470	<2500	<2500	<26000	<2900
4-chloro-3-methylphenol	<2700	<470	<2500	<2500	<26000	<2900
2-methylnaphthalene	<2700	<470	<2500	<2500	<26000	<2900
hexachlorocyclopentadiene	<2700	<470	<2500	<2500	<26000	<2900
2,4,6-trichlorophenol	<2700	<470	<2500	<2500	<26000	<2900
2,4,5-trichlorophenol	<2700	<470	<2500	<2500	<26000	<2900
2-chloronaphthalene	<2700	<470	<2500	<2500	<26000	<2900
2-nitroaniline	<2700	<470	<2500	<2500	<26000	<2900
dimethyl phthalate	<2700	<470	<2500	<2500	<26000	<2900
acenapthylene	<2700	<470	<2500	<2500	<26000	<2900
3-nitroaniline	<2700	<470	<2500	<2500	<26000	<2900
acenaphthene	<2700	<470	<2500	<2500	<26000	<2900
2,4-dinitrophenol	<2700	<470	<2500	<2500	<26000	<2900
4-nitrophenol	<2700	<470	<2500	<2500	<26000	<2900
dibenzofuran	<2700	<470	<2500	<2500	<26000	<2900
2,4-dinitrotoluene	<2700	<470	<2500	<2500	<26000	<2900
2,6-dinitrotoluene	<2700	<470	<2500	<2500	<26000	<2900
diethylphthalate	<2700	<470	<2500	<2500	<26000	<2900
4-chlorophenyl-phenylether	<2700	<470	<2500	<2500	<26000	<2900
fluorene	<2700	<470	<2500	<2500	<26000	<2900
4-nitroaniline	<2700	<470	<2500	<2500	<26000	<2900
4,6-dinitro-2-methylphenol	<2700	<470	<2500	<2500	<26000	<2900
n-nitrosodiphenylamine(1)	2200B	280B	<2500	<2500	<26000	<2900
4-bromophenyl-phenylether	<2700	<470	<2500	<2500	<26000	<2900
hexachlorobenzene	<2700	<470	<2500	<2500	<26000	<2900
pentachlorophenol	<2700	<470	<2500	<2500	<26000	<2900

Table 3. Base/Neutral & Acid Extractable Compounds in Soil Samples, Areas 1A & 5, UOP Site, E. Rutherford, NJ.

Boring Number:	B5-11		B5-12		B5-13	
Sample Depth:	0'-2'	10'-12'	0'-2'	6'-8'	0'-2'	6'-8'
Sample Type:	unsat.	sat.	unsat.	sat.	unsat.	sat.
Date Sampled:	10/31/86	10/31/86	11/3/86	11/3/86	11/3/86	11/3/86
[units: ug/kg (ppb)]						
phenanthrene	<2700	<470	<2500	<2500	<26000	<2900
anthracene	<2700	<470	<2500	<2500	<26000	<2900
di-n-butylphthalate	290J	<470	<2500	780J	<26000	<2900
fluoranthene	<2700	<470	710J	450J	370J	370J
pyrene	<2700	<470	380J	280J	<26000	<2900
butylbenzylphthalate	<2700	<470	<2500	<2500	<26000	<2900
3,3-dichlorobenzidine	<2700	<470	<2500	<2500	<26000	<2900
benzo(a)anthracene	<2700	<470	360J	<2500	<26000	<2900
bis(2-ethylhexyl)phthalate	660J	160J	1000J	14000	16000	4100
chrysene	<2700	<470	480J	<2500	<26000	<2900
di-n-octyl phthalate	<2700	<470	<2500	300J	<26000	<2900
benzo(b)fluoroanthene	<2700	<470	760D	<2500	<26000	<2900
benzo(k)fluoranthene	<2700	<470	760D	<2500	<26000	<2900
benzo(a)pyrene	<2700	<470	460J	<2500	<26000	<2900
indeno(1,2,3-c,d)pyrene	<2700	<470	330J	<2500	<26000	<2900
dibenzo (a,h)anthracene	<2700	<470	<2500	<2500	<26000	<2900
benzo(g,h,i)perylene	<2700	<470	360J	<2500	<26000	<2900
Conc./Dilution Factor	5	1	3	2	4	1

Table 4. Pesticides and PCBs in Soil Samples Collected from Areas 1, 1A, 2 and 5, October-November 1986, UOP Site, East Rutherford, New Jersey.

Data Reporting Qualifiers

-- Indicates compound was not analyzed for.

< Indicates compound was analyzed for but not detected. The number is the minimum attainable detection limit for the sample.

Conc./Dilution Factor - Depending on sample composition, and instrumental requirements, volumes were changed prior to analysis. The results reported in these tables are corrected for those volume changes and reflect the concentration in the sample bottle before laboratory processing. The concentration/dilution factors are listed to provide the information needed to calculate the fraction of reported values that are due to the presence of contaminants in laboratory blanks.

Laboratory: ERCO, Division of ENSECO, 205 Alewife Brook Parkway, Cambridge, Massachusetts 02138.

Table 4. Pesticides & PCBs in Soil Samples, Areas 1, 1A, 2 & 5, UOP Site, E. Rutherford, NJ.

Boring Number:	B1-1		B1-2		B1A-1	
Sample Depth:	0'-2'	4'-6'	0'-2'	2'-4'	0'-2'	2'-4'
Sample Type:	unsat.	sat.	unsat.	sat.	unsat.	sat.
Date Sampled:	10/9/86	10/9/86	10/14/86	10/8/86	10/10/86	10/10/86
[units: ug/kg (ppb)]						
Alpha-BHC	--	--	<80	--	<80	<80
Beta-BHC	--	--	<80	--	<80	<80
Delta-BHC	--	--	<80	--	<80	<80
Gamma-BHC (Lindane)	--	--	<80	--	<80	<80
Heptachlor	--	--	<80	--	<80	<80
Aldrin	--	--	<80	--	<80	<80
Heptachlor Epoxide	--	--	<80	--	<80	<80
Endosulfan I	--	--	<80	--	<80	<80
Dieldrin	--	--	<80	--	<80	<80
4,4'-DDE	--	--	<160	--	<160	<160
Endrin	--	--	<160	--	<160	<160
Endosulfan II	--	--	<160	--	<160	<160
4,4'-DDD	--	--	<160	--	<160	<160
Endosulfan Sulfate	--	--	<160	--	<160	<160
4,4'-DDT	--	--	<160	--	<160	<160
Methoxychlor	--	--	<800	--	<800	<800
Endrin Ketone	--	--	<160	--	<160	<160
Chlordane	--	--	<800	--	<800	<800
Toxaphene	--	--	<1600	--	<1600	<1600
Aroclor-1016	<800	<80	<800	<800	<800	<800
Aroclor-1221	<800	<80	<800	<800	<800	<800
Aroclor-1232	<800	<80	<800	<800	<800	<800
Aroclor-1242	<800	<80	<800	<800	<800	<800
Aroclor-1248	<800	<80	<800	<800	<800	<800
Aroclor-1254	<800	<80	<800	<800	<800	<800
Aroclor-1260	<800	<80	<800	<800	<800	<800
Conc./Dilution Factor	10	1	10	10	10	10

Table 4. Pesticides & PCBs in Soil Samples, Areas 1, 1A, 2 & 5, UOP Site, E. Rutherford, NJ.

Boring Number:	B1A-2		B1A-3		B1A-4	
Sample Depth:	0'-2'	2'-4'	0'-2'	4'-6'	0'-2'	2'-4'
Sample Type:	unsat.	sat.	unsat.	sat.	unsat.	sat.
Date Sampled:	10/10/86	10/10/86	10/10/86	10/10/86	10/10/86	10/10/86
[units: ug/kg (ppb)]						
Alpha-BHC	<160	<160	<160	<8	<160	<80
Beta-BHC	<160	<160	<160	<8	<160	<80
Delta-BHC	<160	<160	<160	<8	<160	<80
Gamma-BHC (Lindane)	<160	<160	<160	<8	<160	<80
Heptachlor	<160	<160	<160	<8	<160	<80
Aldrin	<160	<160	<160	<8	<160	<80
Heptachlor Epoxide	<160	<160	<160	<8	<160	<80
Endosulfan I	<160	<160	<160	<8	<160	<80
Dieldrin	<160	<160	<160	<8	<160	<80
4,4'-DDE	<320	<320	<320	<16	<320	<160
Endrin	<320	<320	<320	<16	<320	<160
Endosulfan II	<320	<320	<320	<16	<320	<160
4,4'-DDD	<320	<320	<320	<16	<320	<160
Endosulfan Sulfate	<320	<320	<320	<16	<320	<160
4,4'-DDT	<320	<320	<320	<16	<320	<160
Methoxychlor	<1600	<1600	<1600	<80	<1600	<800
Endrin Ketone	<320	<320	<320	<16	<320	<160
Chlordane	<1600	<1600	<1600	<80	<1600	<800
Toxaphene	<3200	<3200	<3200	<160	<3200	<1600
Aroclor-1016	<1600	<1600	<1600	<80	<1600	<800
Aroclor-1221	<1600	<1600	<1600	<80	<1600	<800
Aroclor-1232	<1600	<1600	<1600	<80	<1600	<800
Aroclor-1242	<1600	<1600	<1600	<80	<1600	<800
Aroclor-1248	<1600	<1600	<1600	<80	<1600	<800
Aroclor-1254	<1600	<1600	<1600	<80	<1600	<800
Aroclor-1260	<1600	<1600	<1600	<80	<1600	<800
Conc./Dilution Factor	20	20	20	1	20	10

Table 4. Pesticides & PCBs in Soil Samples, Areas 1, 1A, 2 & 5, UOP Site, E. Rutherford, NJ.

Boring Number:	B1A-5		B1A-6		B1A-7	
Sample Depth:	0'-2'	2'-4'	0'-2'	4'-6'	0'-2'	4'-6'
Sample Type:	unsat.	sat.	unsat.	sat.	unsat.	sat.
Date Sampled:	10/10/86	10/10/86	10/10/86	10/10/86	10/10/86	10/10/86
[units: ug/kg (ppb)]						
Alpha-BHC	<160	<80	<160	<80	<8	<8
Beta-BHC	<160	<80	<160	<80	<8	<8
Delta-BHC	<160	<80	<160	<80	<8	<8
Gamma-BHC (Lindane)	<160	<80	<160	<80	<8	<8
Heptachlor	<160	<80	<160	<80	<8	<8
Aldrin	<160	<80	<160	<80	<8	<8
Heptachlor Epoxide	<160	<80	<160	<80	<8	<8
Endosulfan I	<160	<80	<160	<80	<8	<8
Dieldrin	<160	<80	<160	<80	<8	<8
4,4'-DDE	<320	<160	<320	<160	<16	<16
Endrin	<320	<160	<320	<160	<16	<16
Endosulfan II	<320	<160	<320	<160	<16	<16
4,4'-DDD	<320	<160	<320	<160	<16	<16
Endosulfan Sulfate	<320	<160	<320	<160	<16	<16
4,4'-DDT	<320	<160	<320	<160	<16	<16
Methoxychlor	<1600	<800	<1600	<800	<80	<80
Endrin Ketone	<320	<160	<320	<160	<16	<16
Chlordane	<1600	<800	<1600	<800	<80	<80
Toxaphene	<3200	<1600	<3200	<1600	<160	<160
Aroclor-1016	<1600	<800	<1600	<800	<80	<80
Aroclor-1221	<1600	<800	<1600	<800	<80	<80
Aroclor-1232	<1600	<800	<1600	<800	<80	<80
Aroclor-1242	<1600	<800	<1600	<800	<80	<80
Aroclor-1248	<1600	<800	<1600	<800	<80	<80
Aroclor-1254	<1600	<800	<1600	<800	<80	<80
Aroclor-1260	<1600	<800	<1600	<800	<80	<80
Conc./Dilution Factor	20	10	20	10	1	1

Table 4. Pesticides & PCBs in Soil Samples, Areas 1, 1A, 2 & 5, UOP Site, E. Rutherford, NJ.

Boring Number:	B1A-8		B2-1		B2-2	
Sample Depth:	0'-2'	2'-4'	0'-2'	6'-8'	0'-2'	2'-4'
Sample Type:	unsat.	sat.	unsat.	sat.	unsat.	sat.
Date Sampled:	10/10/86	10/10/86	10/13/86	10/13/86	10/13/86	10/13/86
[units: ug/kg (ppb)]						
Alpha-BHC	<8	<8	--	--	--	--
Beta-BHC	<8	<8	--	--	--	--
Delta-BHC	<8	<8	--	--	--	--
Gamma-BHC (Lindane)	<8	<8	--	--	--	--
Heptachlor	<8	<8	--	--	--	--
Aldrin	<8	<8	--	--	--	--
Heptachlor Epoxide	<8	<8	--	--	--	--
Endosulfan I	<8	<8	--	--	--	--
Dieldrin	<8	<8	--	--	--	--
4,4'-DDE	<16	<16	--	--	--	--
Endrin	<16	<16	--	--	--	--
Endosulfan II	<16	<16	--	--	--	--
4,4'-DDD	<16	<16	--	--	--	--
Endosulfan Sulfate	<16	<16	--	--	--	--
4,4'-DDT	<16	<16	--	--	--	--
Methoxychlor	<80	<80	--	--	--	--
Endrin Ketone	<16	<16	--	--	--	--
Chlordane	<80	<80	--	--	--	--
Toxaphene	<160	<160	--	--	--	--
Aroclor-1016	<80	<80	<80	<80	<1600	<80
Aroclor-1221	<80	<80	<80	<80	<1600	<80
Aroclor-1232	<80	<80	<80	<80	<1600	<80
Aroclor-1242	<80	<80	<80	<80	<1600	<80
Aroclor-1248	<80	<80	130	19	10000	2600
Aroclor-1254	<80	<80	67	<80	<1600	<80
Aroclor-1260	<80	<80	<80	<80	<1600	<80
Conc./Dilution Factor	1	1	1	1	20	1

Table 4. Pesticides & PCBs in Soil Samples, Areas 1, 1A, 2 & 5, UOP Site, E. Rutherford, NJ.

Boring Number:	B2-3	B2-4	B2-5	B2-6	B2-7
Sample Depth:	2'-4'	0'-2'	2'-4'	2'-4'	0'-2'
Sample Type:	sat.	sat.	sat.	sat.	unsat.
Date Sampled:	10/13/86	10/13/86	10/13/86	10/13/86	10/13/86
[units: ug/kg (ppb)]					
Alpha-BHC	--	--	--	--	--
Beta-BHC	--	--	--	--	--
Delta-BHC	--	--	--	--	--
Gamma-BHC (Lindane)	--	--	--	--	--
Heptachlor	--	--	--	--	--
Aldrin	--	--	--	--	--
Heptachlor Epoxide	--	--	--	--	--
Endosulfan I	--	--	--	--	--
Dieldrin	--	--	--	--	--
4,4'-DDE	--	--	--	--	--
Endrin	--	--	--	--	--
Endosulfan II	--	--	--	--	--
4,4'-DDD	--	--	--	--	--
Endosulfan Sulfate	--	--	--	--	--
4,4'-DDT	--	--	--	--	--
Methoxychlor	--	--	--	--	--
Endrin Ketone	--	--	--	--	--
Chlordane	--	--	--	--	--
Toxaphene	--	--	--	--	--
Aroclor-1016	<80	<1600	<1600	<1600	<80
Aroclor-1221	<80	<1600	<1600	<1600	<80
Aroclor-1232	<80	<1600	<1600	<1600	<80
Aroclor-1242	<80	<1600	<1600	<1600	<80
Aroclor-1248	<80	1900	21000	2600	1000
Aroclor-1254	30	<1600	<1600	<1600	<80
Aroclor-1260	<80	<1600	<1600	<1600	<80
Conc./Dilution Factor	1	20	20	20	1

Table 4. Pesticides & PCBs in Soil Samples, Areas 1, 1A, 2 & 5, UOP Site, E. Rutherford, NJ.

Boring Number:	B2-7	B2-8		B2-9	B2-10	
Sample Depth:	2'-4'	0'-2'	2'-4'	0'-2'	0'-2'	2'-4'
Sample Type:	sat.	unsat.	sat.	sat.	unsat.	sat.
Date Sampled:	10/13/86	10/13/86	10/13/86	10/13/86	10/13/86	10/13/86
[units: ug/kg (ppb)]						
Alpha-BHC	--	--	--	--	--	--
Beta-BHC	--	--	--	--	--	--
Delta-BHC	--	--	--	--	--	--
Gamma-BHC (Lindane)	--	--	--	--	--	--
Heptachlor	--	--	--	--	--	--
Aldrin	--	--	--	--	--	--
Heptachlor Epoxide	--	--	--	--	--	--
Endosulfan I	--	--	--	--	--	--
Dieldrin	--	--	--	--	--	--
4,4'-DDE	--	--	--	--	--	--
Endrin	--	--	--	--	--	--
Endosulfan II	--	--	--	--	--	--
4,4'-DDD	--	--	--	--	--	--
Endosulfan Sulfate	--	--	--	--	--	--
4,4'-DDT	--	--	--	--	--	--
Methoxychlor	--	--	--	--	--	--
Endrin Ketone	--	--	--	--	--	--
Chlordane	--	--	--	--	--	--
Toxaphene	--	--	--	--	--	--
Aroclor-1016	<1600	<80	<80	<1600	<80	<80
Aroclor-1221	<1600	<80	<80	<1600	<80	<80
Aroclor-1232	<1600	<80	<80	<1600	<80	<80
Aroclor-1242	<1600	<80	<80	<1600	<80	<80
Aroclor-1248	4800	29	<80	4900	56	76
Aroclor-1254	<1600	<80	<80	<1600	40	59
Aroclor-1260	<1600	<80	<80	<1600	<80	<80
Conc./Dilution Factor	20	1	1	20	1	1

Table 4. Pesticides & PCBs in Soil Samples, Areas 1, 1A, 2 & 5, UOP Site, E. Rutherford, NJ.

Boring Number:	B5-1		B5-2		B5-3	
Sample Depth:	0'-2'	2'-4'	0'-2'	2'-4'	0'-2'	2'-4'
Sample Type:	unsat.	sat.	unsat.	sat.	unsat.	sat.
Date Sampled:	10/28/86	10/28/86	10/29/86	10/29/86	10/29/86	10/29/86
[units: ug/kg (ppb)]						
Alpha-BHC	<80	<80	<800	<80	<800	<80
Beta-BHC	<80	<80	<800	<80	<800	<80
Delta-BHC	<80	<80	<800	<80	<800	<80
Gamma-BHC (Lindane)	<80	<80	<800	<80	<800	<80
Heptachlor	<80	<80	<800	<80	<800	<80
Aldrin	<80	<80	<800	<80	<800	<80
Heptachlor Epoxide	<80	<80	<800	<80	<800	<80
Endosulfan I	<80	<80	<800	<80	<800	<80
Dieldrin	<160	<160	<1600	<160	<1600	<80
4,4'-DDE	<160	<160	<1600	<160	<1600	<160
Endrin	<160	<160	<1600	<160	<1600	<160
Endosulfan II	<160	<160	<1600	<160	<1600	<160
4,4'-DDD	<160	<160	<1600	<160	<1600	<160
Endosulfan Sulfate	<160	<160	<1600	<160	<1600	<160
4,4'-DDT	<160	<160	<1600	<160	<1600	<160
Methoxychlor	<800	<800	<8000	<800	<8000	<800
Endrin Ketone	<160	<160	<1600	<160	<1600	<160
Chlordane	<800	<800	<8000	<800	<8000	<800
Toxaphene	<1600	<1600	<16000	<1600	<16000	<1600
Aroclor-1016	<800	<800	<8000	<800	<8000	<800
Aroclor-1221	<800	<800	<8000	<800	<8000	<800
Aroclor-1232	<800	<800	<8000	<800	<8000	<800
Aroclor-1242	<800	<800	<8000	<800	<8000	<800
Aroclor-1248	450	310	95000	27000	18000	160
Aroclor-1254	<800	<800	<8000	<800	<8000	<800
Aroclor-1260	<800	<800	<8000	<800	<8000	<800
Conc./Dilution Factor	10	10	100	10	100	10

Table 4. Pesticides & PCBs in Soil Samples, Areas 1, 1A, 2 & 5, UOP Site, E. Rutherford, NJ.

Boring Number:	B5-4		B5-5		B5-6	
Sample Depth:	0'-2'	4'-6'	0'-2'	4'-6'	0'-2'	2'-4'
Sample Type:	unsat.	sat.	unsat.	sat.	unsat.	sat.
Date Sampled:	10/29/86	10/29/86	10/29/86	10/29/86	10/29/86	10/29/86
[units: ug/kg (ppb)]						
Alpha-BHC	<80	<80	<800	<80	<80	<80
Beta-BHC	<80	<80	<800	<80	<80	<80
Delta-BHC	<80	<80	<800	<80	<80	<80
Gamma-BHC (Lindane)	<80	<80	<800	<80	<80	<80
Heptachlor	<80	<80	<800	<80	<80	<80
Aldrin	<80	<80	<800	<80	<80	<80
Heptachlor Epoxide	<80	<80	<800	<80	<80	<80
Endosulfan I	<80	<80	<800	<80	<80	<80
Dieldrin	<160	<160	<1600	<160	<160	<160
4,4'-DDE	<160	<160	<1600	<160	<160	<160
Endrin	<160	<160	<1600	<160	<160	<160
Endosulfan II	<160	<160	<1600	<160	<160	<160
4,4'-DDD	<160	<160	<1600	<160	<160	<160
Endosulfan Sulfate	<160	<160	<1600	<160	<160	<160
4,4'-DDT	<160	<160	<1600	<160	<160	<160
Methoxychlor	<800	<800	<8000	<800	<800	<800
Endrin Ketone	<160	<160	<1600	<160	<160	<160
Chlordane	<800	<800	<8000	<800	<800	<800
Toxaphene	<1600	<1600	<16000	<1600	<1600	<1600
Aroclor-1016	<800	<800	<8000	<800	<800	<800
Aroclor-1221	<800	<800	<8000	<800	<800	<800
Aroclor-1232	<800	<800	<8000	<800	<800	<800
Aroclor-1242	<800	<800	<8000	<800	<800	<800
Aroclor-1248	1000	31	17000	9800	2900	1500
Aroclor-1254	<800	14	<8000	<800	<800	<800
Aroclor-1260	<800	<800	<8000	<800	<800	<800
Conc./Dilution Factor	10	10	100	10	10	10

Table 4. Pesticides & PCBs in Soil Samples, Areas 1, 1A, 2 & 5, UOP Site, E. Rutherford, NJ.

Boring Number:	B5-7		B5-8		B5-9	
Sample Depth:	0'-2'	2'-4'	0'-2'	6'-8'	0'-2'	8'-10'
Sample Type:	unsat.	sat.	unsat.	sat.	unsat.	sat.
Date Sampled:	10/29/86	10/29/86	10/30/86	10/30/86	10/30/86	10/30/86
[units: ug/kg (ppb)]						
Alpha-BHC	<1600	<1600	<80	<80	<80	<8
Beta-BHC	<1600	<1600	<80	<80	<80	<8
Delta-BHC	<1600	<1600	<80	<80	<80	<8
Gamma-BHC (Lindane)	<1600	<1600	<80	<80	<80	<8
Heptachlor	<1600	<1600	<80	<80	<80	<8
Aldrin	<1600	<1600	<80	<80	<80	<8
Heptachlor Epoxide	<1600	<1600	<80	<80	<80	<8
Endosulfan I	<1600	<1600	<80	<80	<80	<8
Dieldrin	<3200	<3200	<160	<160	<160	<16
4,4'-DDE	<3200	<3200	<160	<160	<160	<16
Endrin	<3200	<3200	<160	<160	<160	<16
Endosulfan II	<3200	<3200	<160	<160	<160	<16
4,4'-DDD	<3200	<3200	<160	<160	<160	<16
Endosulfan Sulfate	<3200	<3200	<160	<160	<160	<16
4,4'-DDT	<3200	<3200	<160	<160	<160	<16
Methoxychlor	<16000	<16000	<800	<800	<800	<80
Endrin Ketone	<3200	<32000	<160	<160	<160	<16
Chlordane	<16000	<16000	<800	<800	<800	<80
Toxaphene	<32000	<32000	<1600	<1600	<1600	<160
Aroclor-1016	<16000	<16000	<800	<800	<800	<80
Aroclor-1221	<16000	<16000	<800	<800	<800	<80
Aroclor-1232	<16000	<16000	<800	<800	<800	<80
Aroclor-1242	<16000	<16000	<800	<800	<800	<80
Aroclor-1248	480000	38000	2300	5600	1500	<80
Aroclor-1254	<16000	<16000	<800	<800	<800	<80
Aroclor-1260	<16000	<16000	<800	<800	<800	<80
Conc./Dilution Factor	200	200	10	10	10	1

Table 4. Pesticides & PCBs in Soil Samples, Areas 1, 1A, 2 & 5, UOP Site, E. Rutherford, NJ.

Boring Number:	B5-10		B5-11		B5-12	
Sample Depth:	0'-2'	4'-6'	0'-2'	10'-12'	0'-2'	6'-8'
Sample Type:	unsat.	sat.	unsat.	sat.	unsat.	sat.
Date Sampled:	10/31/86	10/31/86	10/31/86	10/31/86	11/3/86	11/3/86
[units: ug/kg (ppb)]						
Alpha-BHC	<80	<1600	<80	<80	<80	<80
Beta-BHC	<80	<1600	<80	<80	<80	<80
Delta-BHC	<80	<1600	<80	<80	<80	<80
Gamma-BHC (Lindane)	<80	<1600	<80	<80	<80	<80
Heptachlor	<80	<1600	<80	<80	<80	<80
Aldrin	<80	<1600	<80	<80	<80	<80
Heptachlor Epoxide	<80	<1600	<80	<80	<80	<80
Endosulfan I	<80	<1600	<80	<80	<80	<80
Dieldrin	<160	<3200	<160	<160	<160	<160
4,4'-DDE	<160	<3200	<160	<160	<160	<160
Endrin	<160	<3200	<160	<160	<160	<160
Endosulfan II	<160	<3200	<160	<160	<160	<160
4,4'-DDD	<160	<3200	<160	<160	<160	<160
Endosulfan Sulfate	<160	<3200	<160	<160	<160	<160
4,4'-DDT	<160	<3200	<160	<160	<160	<160
Methoxychlor	<800	<16000	<800	<800	<800	<800
Endrin Ketone	<160	<3200	<160	<160	<160	<160
Chlordane	<800	<16000	<800	<800	<800	<800
Toxaphene	<1600	<32000	<1600	<1600	<1600	<1600
Aroclor-1016	<800	<16000	<800	<800	<800	<800
Aroclor-1221	<800	<16000	<800	<800	<800	<800
Aroclor-1232	<800	<16000	<800	<800	<800	<800
Aroclor-1242	<800	<16000	<800	<800	<800	<800
Aroclor-1248	4200	500	<800	<800	<800	2100
Aroclor-1254	<800	<16000	640	<800	290	450
Aroclor-1260	<800	<16000	<800	<800	<800	<800
Conc./Dilution Factor	10	200	10	10	10	10

Table 4. Pesticides & PCBs in Soil Samples, Areas 1, 1A, 2 & 5, UOP Site, E. Rutherford, NJ.

Boring Number:	B5-13	
Sample Depth:	0'-2'	6'-8'
Sample Type:	unsat.	sat.
Date Sampled:	11/3/86	11/3/86
[units: ug/kg (ppb)]		
Alpha-BHC	<8	<8
Beta-BHC	<8	<8
Delta-BHC	<8	<8
Gamma-BHC (Lindane)	<8	<8
Heptachlor	<8	<8
Aldrin	<8	<8
Heptachlor Epoxide	<8	<8
Endosulfan I	<8	<8
Dieldrin	<16	<16
4,4'-DDE	<16	<16
Endrin	<16	<16
Endosulfan II	<16	<16
4,4'-DDD	<16	<16
Endosulfan Sulfate	<16	<16
4,4'-DDT	<16	<16
Methoxychlor	<80	<80
Endrin Ketone	<16	<16
Chlordane	<80	<80
Toxaphene	<160	<160
Aroclor-1016	<80	<80
Aroclor-1221	<80	<80
Aroclor-1232	<80	<80
Aroclor-1242	<80	<80
Aroclor-1248	76	54
Aroclor-1254	160	97
Aroclor-1260	<80	<80
Conc./Dilution Factor	1	1

Table 5. Metals and Cyanide in Soil Samples Collected from Areas 1, 1A, 2 & 5, October-November 1986, UOP Site, East Rutherford, New Jersey.

Data Reporting Qualifiers

-- Indicates compound was not analyzed for.

< Indicates compound was analyzed for but not detected. The number is the minimum attainable detection limit for the sample.

Conc./Dilution Factor - Depending on sample composition, and instrumental requirements, volumes were changed prior to analysis. The results reported in these tables are corrected for those volume changes and reflect the concentration in the sample bottle before laboratory processing. The concentration/dilution factors are listed to provide the information needed to calculate the fraction of reported values that are due to the presence of contaminants in laboratory blanks.

Laboratory: ERCO, Division of ENSECO, 205 Alewife Brook Parkway, Cambridge, Massachusetts 02138.

Table 5. Metals & Cyanide in Soil Samples, Areas 1, 1A, 2 & 5, UOP Site, E. Rutherford, NJ.

Boring Number:	B1-1		B1-2		B1-3	
Sample Depth:	0'-2'	4'-6'	0'-2'	2'-4'	0'-2'	4'-6'
Sample Type:	unsat.	sat.	unsat.	sat.	unsat.	sat.
Date Sampled:	10/9/86	10/9/86	10/14/86	10/8/86	10/8/86	10/8/86
[units: mg/kg (ppm)]						
Arsenic	--	--	--	--	--	--
Cadmium	--	--	--	--	--	--
Chromium	7.1	9.0	18	37	19	78
Cyanide	--	--	--	--	--	--
Lead	--	--	--	--	--	--
Manganese	--	--	--	--	--	--
Mercury	--	--	--	--	--	--
Zinc	--	--	--	--	--	--

Table 5. Metals & Cyanide in Soil Samples, Areas 1, 1A, 2 & 5, UOP Site, E. Rutherford, NJ.

Boring Number:	B1-4		B1-5		B1-6	
Sample Depth:	0'-2'	4'-6'	0'-2'	8'-10'	0'-2'	2'-4'
Sample Type:	unsat.	sat.	unsat.	sat.	unsat.	sat.
Date Sampled:	10/8/86	10/8/86	10/9/86	10/9/86	10/14/86	10/9/86
[units: mg/kg (ppm)]						
Arsenic	--	--	--	--	--	--
Cadmium	--	--	--	--	--	--
Chromium	15	16	61	17	27	43
Cyanide	--	--	--	--	--	--
Lead	--	--	--	--	--	--
Manganese	--	--	--	--	--	--
Mercury	--	--	--	--	--	--
Zinc	--	--	--	--	--	--

Table 5. Metals & Cyanide in Soil Samples, Areas 1, 1A, 2 & 5, UOP Site, E. Rutherford, NJ.

Boring Number:	B1-7		B1-8		B1-9	B1A-1
Sample Depth:	0'-2'	2'-4'	0'-2'	2'-4'	0'-2'	0'-2'
Sample Type:	unsat.	sat.	unsat.	sat.	sat.	unsat.
Date Sampled:	10/14/86	10/9/86	10/14/86	10/9/86	10/9/86	10/10/86
[units: mg/kg (ppm)]						
Arsenic	--	--	7.1	--	<5.6	<5.5
Cadmium	--	--	--	--	--	<2.2
Chromium	11	63	29	16	29	28
Cyanide	--	--	--	--	--	<0.27
Lead	--	--	62	316	--	12
Manganese	--	--	--	--	--	124
Mercury	--	--	--	--	--	<.055
Zinc	--	--	--	--	--	31

Table 5. Metals & Cyanide in Soil Samples, Areas 1, 1A, 2 & 5, UOP Site, E. Rutherford, NJ.

Boring Number:	B1A-1	B1A-2		B1A-3		B1A-4
Sample Depth:	2'-4'	0'-2'	2'-4'	0'-2'	4'-6'	0'-2'
Sample Type:	sat.	unsat.	sat.	unsat.	sat.	unsat.
Date Sampled:	10/10/86	10/10/86	10/10/86	10/10/86	10/10/86	10/10/86
[units: mg/kg (ppm)]						
Arsenic	<5.9	18	<5.9	<5.4	<26	6.7
Cadmium	<2.4	4.1	<2.4	<2.2	<10	<2.2
Chromium	30	123	38	19	148	21
Cyanide	<0.27	34.8	62.3	<0.27	<1.9	<0.31
Lead	8.2	779.	216	39	12	670
Manganese	133	224	97	274	224	378
Mercury	<.059	1.4	0.46	0.22	1.4	0.12
Zinc	33	633	132	67	106	283

Table 5. Metals & Cyanide in Soil Samples, Areas 1, 1A, 2 & 5, UOP Site, E. Rutherford, NJ.

Boring Number:	B1A-4	B1A-5		B1A-6		B1A-7
Sample Depth:	2'-4'	0'-2'	2'-4'	0'-2'	4'-6'	0'-2'
Sample Type:	sat.	unsat.	sat.	unsat.	sat.	unsat.
Date Sampled:	10/10/86	10/10/86	10/10/86	10/10/86	10/10/86	10/10/86
[units: mg/kg (ppm)]						
Arsenic	45	<5.6	<8.1	<8.7	27	<5.7
Cadmium	<3.0	<2.2	<3.2	<3.4	<7.1U	<2.3
Chromium	68	11	203	100	4140	18
Cyanide	<1.7	0.39	<0.79	<0.28	3.64	<0.28
Lead	372	84	34	70	253	12
Manganese	636	42	96	1730	4730	567
Mercury	0.92	0.12	0.47	2.4	15	0.068
Zinc	557	67	94	76	628	36

Table 5. Metals & Cyanide in Soil Samples, Areas 1, 1A, 2 & 5, UOP Site, E. Rutherford, NJ.

Boring Number:	B1A-7	B1A-8		B2-4	B2-5
Sample Depth:	4'-6'	0'-2'	2'-4'	0'-2'	2'-4'
Sample Type:	sat.	unsat.	sat.	sat.	sat.
Date Sampled:	10/10/86	10/10/86	10/10/86	10/13/86	10/13/86
[units: mg/kg (ppm)]					
Arsenic	6.2	7.0	<12	--	--
Cadmium	<2.5	<2.2	<4.9	--	--
Chromium	25	38	632	30	206
Cyanide	<0.33	<0.68	1.29	--	--
Lead	15	31	902	--	--
Manganese	139	230	1380	--	--
Mercury	0.18	0.5	1.2	--	0.50
Zinc	55	63	2200	--	--

Table 5. Metals & Cyanide in Soil Samples, Areas 1, 1A, 2 & 5, UOP Site, E. Rutherford, NJ.

Boring Number:	B2-6	B2-7		B2-8		B2-9
Sample Depth:	2'-4'	0'-2'	2'-4'	0'-2'	2'-4'	0'-2'
Sample Type:	sat.	unsat.	sat.	unsat.	sat.	sat.
Date Sampled:	10/13/86	10/13/86	10/13/86	10/13/86	10/13/86	10/13/86
[units: mg/kg (ppm)]						
Arsenic	--	--	--	--	--	--
Cadmium	--	--	--	--	--	--
Chromium	--	170	662	--	--	--
Cyanide	--	--	--	--	--	--
Lead	--	--	--	--	--	--
Manganese	--	--	--	--	--	--
Mercury	0.21	0.50	0.51	0.21	<0.05	--
Zinc	--	--	--	--	--	184

Table 5. Metals & Cyanide in Soil Samples, Areas 1, 1A, 2 & 5, UOP Site, E. Rutherford, NJ.

Boring Number:	B2-10		B5-1		B5-2	
Sample Depth:	0'-2'	2'-4'	0'-2'	2'-4'	0'-2'	2'-4'
Sample Type:	unsat.	sat.	unsat.	sat.	unsat.	sat.
Date Sampled:	10/13/86	10/13/86	10/28/86	10/28/86	10/29/86	10/29/86
[units: mg/kg (ppm)]						
Arsenic	--	--	<5.6	<5.7	15	52
Cadmium	--	--	<2.8	<2.8	<3.1	16
Chromium	--	27	31	18	2880	7250
Cyanide	--	--	<0.29	<0.28	20.8	3.32
Lead	--	--	28	416	154	290
Manganese	--	--	366	189	1960	1310
Mercury	--	<0.05	0.84	0.36	5.8	190
Zinc	41	32	98	58	536	1110

Table 5. Metals & Cyanide in Soil Samples, Areas 1, 1A, 2 & 5, UOP Site, E. Rutherford, NJ.

Boring Number:	B5-3		B5-4		B5-5	
Sample Depth:	0'-2'	2'-4'	0'-2'	4'-6'	0'-2'	4'-6'
Sample Type:	unsat.	sat.	unsat.	sat.	unsat.	sat.
Date Sampled:	10/29/86	10/29/86	10/29/86	10/29/86	10/29/86	10/29/86
[units: mg/kg (ppm)]						
Arsenic	6.0	<6.1	<6	31	10	11
Cadmium	<3	<3	6.1	<5.6	<2.9	<4.5
Chromium	130	31	182	75	52	108
Cyanide	1.21	0.53	0.66	<0.41	0.32	8.99
Lead	253	20	71	556	198	89
Manganese	2010	121	379	364	3100	2160
Mercury	4.1	0.44	0.83	1.6	8.5	11
Zinc	270	79	137	452	215	42

Table 5. Metals & Cyanide in Soil Samples, Areas 1, 1A, 2 & 5, UOP Site, E. Rutherford, NJ.

Boring Number:	B5-6		B5-7		B5-8	
Sample Depth:	0'-2'	2'-4'	0'-2'	2'-4'	0'-2'	6'-8'
Sample Type:	unsat.	sat.	unsat.	sat.	unsat.	sat.
Date Sampled:	10/29/86	10/29/86	10/29/86	10/29/86	10/30/86	10/30/86
[units: mg/kg (ppm)]						
Arsenic	<6.0	<7.6	7.1	<6.1	5.7	<6.0
Cadmium	3.0	<3.8	3.2	<3.0	<2.9	<3.0
Chromium	857	1790	28	35	129	99
Cyanide	<0.3	<0.3	1.99	<0.31	2.08	0.9
Lead	43	42	11	18	15	84
Manganese	568	743	407	411	419	298
Mercury	4.0	13	10	4.5	1.6	1.4
Zinc	93	138	76	199	126	103

Table 5. Metals & Cyanide in Soil Samples, Areas 1, 1A, 2 & 5, UOP Site, E. Rutherford, NJ.

Boring Number:	85-9		85-10		85-11	
Sample Depth:	0'-2'	8'-10'	0'-2'	4'-6'	0'-2'	10'-12'
Sample Type:	unsat.	sat.	unsat.	sat.	unsat.	sat.
Date Sampled:	10/30/86	10/30/86	10/31/86	10/31/86	10/31/86	10/31/86
[units: mg/kg (ppm)]						
Arsenic	<6.6	<6.2	6.1	7.5	18	7.4
Cadmium	<3.3	<3.1	<3.0	<3.7	6.2	<3.1
Chromium	124	23	158	869	71	19
Cyanide	1.22	<0.29	0.68	<1.03	7.9	0.43
Lead	99	8.0	67	112	1820	17
Manganese	400	167	363	650	1090	961
Mercury	1.7	0.16	6.8	6.9	3.5	<0.12
Zinc	114	45	129	148	1530	121

Table 5. Metals & Cyanide in Soil Samples, Areas 1, 1A, 2 & 5, UOP Site, E. Rutherford, NJ.

Boring Number:	B5-12		B5-13	
Sample Depth:	0'-2'	6'-8'	0'-2'	6'-8'
Sample Type:	unsat.	sat.	unsat.	sat.
Date Sampled:	11/3/86	11/3/86	11/3/86	11/3/86
[units: mg/kg (ppm)]				
Arsenic	15	16	8.6	26
Cadmium	<3.3	<5.7	16	34
Chromium	30	273	78	1590
Cyanide	5.35	2.73	2.94	8.44
Lead	1730	693	657	1000
Manganese	133	657	557	813
Mercury	1.6	2.7	2.3	8.7
Zinc	275	709	284	4010

Table 6. Summary of Inorganic Data for Soils in Areas 1, 1A, 2 and 5, 1983-1986, UOP Site, East Rutherford, New Jersey. (Units: mg/kg)

	Metal	Area 1	Area 1A	Area 2	Area 5
ARSENIC	Range	ND - 8.4	ND - 45	ND - 5.5	ND - 52
	Median	1.4	ND	1.9	6.0
	Mean	2.4	6.9	2.5	8.2
	Standard deviation	2.6	12.8	2.2	11.2
	Number of data points	16	16	7	31
CADMIUM	Range	ND - 2.2	ND - 4.1	ND - 2.2	ND - 34
	Median	0.092	ND	0.009	ND
	Mean	0.47	0.26	0.39	2.8
	Standard deviation	0.69	1.025	0.80	7.0
	Number of data points	15	16	8	31
CHROMIUM	Range	5.5 - 710	11 - 4140	3.6 - 662	5.5 - 7250
	Median	29	38	30	82
	Mean	55.3	352.6	122.5	553
	Standard deviation	120.5	1021.4	186	1378
	Number of data points	34	16	13	31

Table 6. Summary of Inorganic Data for Soils in Areas 1, 1A, 2 and 5, 1983-1986, UOP Site, East Rutherford, New Jersey. (Units: mg/kg)

	Metal	Area 1	Area 1A	Area 2	Area 5
CYANIDE	Range	ND - 2.4	ND - 62.3	ND - 1.31	ND - 79
	Median	0.3	ND	0.3	0.53
	Mean	0.41	6.5	0.425	4.6
	Standard deviation	0.58	17.2	0.45	14.2
	Number of data points	15	16	8	31
LEAD	Range	4.5 - 700	8.2 - 902	1 - 330	7 - 1820
	Median	30	54.5	45.5	84
	Mean	105.2	219.3	75	284
	Standard deviation	176.2	301.7	108	458
	Number of data points	17	16	8	31
MANGANESE	Range	80 - 650	42 - 4730	38 - 1700	80 - 3100
	Median	330	227	220	419
	Mean	305.6	687.8	532.9	716
	Standard deviation	170	1180	700	694
	Number of data points	15	16	8	31

Table 6. Summary of Inorganic Data for Soils in Areas 1, 1A, 2 and 5, 1983-1986, UOP Site, East Rutherford, New Jersey. (Units: mg/kg)

	Metal	Area 1	Area 1A	Area 2	Area 5
MERCURY	Range	ND - 15	ND - 0.51	ND - 190	
	Median	0.47	0.21	3.1	
	Mean	---	1.5	0.28	11.2
	Standard deviation	3.7	0.23	35.9	
	Number of data points	16	7	26	
ZINC	Range	22 - 480	31 - 2200	5.7 - 520	22 - 1530
	Median	60	80.5	53	129
	Mean	100.2	316	114.5	369
	Standard deviation	118.6	547	150.2	739
	Number of data points	15	16	11	31

Note: ND - Not Detected

Table 7. Summary of Construction Details for Monitoring Wells, UOP Inc. Site, East Rutherford, New Jersey.

Well Number	New Jersey DEP Permit Number	Measuring Point Elevation (ft above mean sea level)	Screened Interval (ft below land surface)	Well Diameter (inches)	Date Completed
1S	26-6491	6.29	0 - 11.0	2	11-17-83
2S	26-6525	6.78	2.5 - 5.5	2	11-04-83
2I	26-6492	7.31	2.0 - 17.0	2	11-04-83
3S	26-6526	6.61	5.0 - 8.0	2	11-01-83
3I	26-6493	6.89	1.0 - 16.0	2	11-01-83
3D	26-6502	6.62	107.0 -127.0	4	11-15-83
4I	26-6494	7.58	1.0 - 16.0	2	11-01-83
5I	26-6495	6.88	0 - 15.0	2	10-31-83
6I	26-6496	7.54	3.0 - 18.0	2	11-09-83
7S	26-6527	7.41	4.5 - 7.5	2	11-08-83
7I	26-6497	7.55	2.0 - 17.0	2	11-08-83
7D	26-6503	7.97	112.0 -132.0	4	11-17-83
8I	26-6498	8.52	2.0 - 17.0	2	11-09-83
9I	26-6499	5.21	1.0 - 16.0	2	11-07-83
10I	26-6500	7.76	1.0 - 16.0	2	11-04-83
11I	26-6501	6.60	2.5 - 17.5	2	11-02-83
12I	26-7077-4	7.51	2.5 - 17.5	2	10-15-84
13I	26-7078-2	6.56	0.5 - 15.5	2	10-15-84
14I	26-7079-1	7.45	2.5 - 17.5	2	10-15-84
16I	26-7081-2	7.49	3.0 - 18.0	2	10-16-84

Table 7. Summary of Construction Details for Monitoring Wells, UOP Inc. Site, East Rutherford, New Jersey.

Well Number	New Jersey DEP Permit Number	Measuring Point Elevation (ft above mean sea level)	Screened Interval (ft below land surface)	Well Diameter (inches)	Date Completed
17I	26-7082-1	7.56	0.8 -15.8	2	10-16-84
18I	26-7083-9	6.59	3.5 -18.5	2	10-16-84
19I	26-7084-7	8.09	2.5 -17.5	2	10-17-84
20I	26-7085-5	7.94	3.4 -18.4	2	10-17-84
21I	26-7086-3	8.35	2.5 -17.5	2	10-17-84
22I	26-7087-1	7.09	1.0 -16.0	2	10-17-84
23I	26-7088-0	6.28	0.7 -15.7	2	10-18-84
24I	26-7089-8	7.13	1.0 -16.0	2	10-18-84
25I	26-7090-1	6.95	2.5 -17.5	2	10-19-84
26I	26-7091-0	8.30	1.5 -16.5	2	10-19-84
27I	2609710-9	7.57	3.0 -18.0	2	10-14-86
28I	2609711-7	7.68	3.0 -18.0	2	10-15-86
29I	2609707-9	7.79	3.0 -18.0	2	10-30-86
30I	2609708-7	9.46	3.0 -18.0	2	10-31-86
31I	2609709-5	8.82	3.0 -18.0	2	11-03-86
MW-3	26-4842	5.79	3.0 -13.0	4	04-02-80
MW-17	26-4846	5.85	0.5 - 5.5	4	04-01-80

Screen material: stainless steel
Casing material: black steel

Table 8. Hydraulic Conductivity and Ground-Water Velocity Values Calculated From Slug Test Data Collected During November 4-7, 1986, UOP Inc. Site, East Rutherford, New Jersey.

Well Designation	Hydraulic Conductivity (ft/day)	Hydraulic Conductivity (centimeters/second)	Ground-Water Velocity (ft/day)	Ground-Water Velocity (centimeters/second)
3S	3.7×10^{-3}	1.3×10^{-6}	1.8×10^{-4}	6.4×10^{-8}
3I	4.2×10^{-2}	1.5×10^{-5}	1.4×10^{-3}	4.9×10^{-7}
6I	1.8×10^{-1}	6.5×10^{-5}	1.4×10^{-3}	4.9×10^{-7}
19I	9.5×10^{-2}	3.4×10^{-5}	3.0×10^{-3}	1.1×10^{-6}
23I	1.6	5.6×10^{-4}	7.9×10^{-2}	2.8×10^{-5}
24I	7.4×10^{-2}	2.6×10^{-5}	6.3×10^{-4}	2.2×10^{-7}
27I	1.9×10^{-1}	6.7×10^{-5}	5.4×10^{-3}	1.9×10^{-6}

Table 9. Summary of Water-Level Data for Monitoring Wells, November and December 1986, UOP Inc. Site, East Rutherford, New Jersey.

Well Number	Measuring Point Elevation (ft above mean sea level)	NOVEMBER 4, 1986		DECEMBER 2, 1986	
		Depth to Water (ft below measuring point)	Ground-Water Elevation (ft above mean sea level)	Depth to Water (ft below measuring point)	Ground-Water Elevation (ft above mean sea level)
1S	6.29	A	--	A	--
2S	6.78	3.63	3.15	3.22	3.56
2I	7.31	3.86	3.45	4.02	3.29
3S	6.61	4.52	2.09	4.20	2.41
3I	6.89	3.96	2.93	3.75	3.14
3D	6.62	3.20	3.42	2.33	4.29
4I	7.58	5.22	2.36	4.90	2.68
5I	6.88	3.19	3.69	3.00	3.88
6I	7.54	4.24	3.30	3.76	3.78
7S	7.41	4.60	2.81	4.22	3.19
7I	7.55	5.56	1.99	4.40	3.15
7D	7.97	5.44	2.53	3.64	4.33
8I	8.52	4.60	3.92	4.52	4.00
9I	5.21	B	--	B	--
10I	7.76	A	--	3.81	3.95
11I	6.60	3.66	2.94	3.16	3.44
12I	7.51	5.81	1.70	5.47	2.04
13I	6.56	2.28	4.28	2.09	4.47
14I	7.45	B	--	4.86	2.59
16I	7.49	6.48	1.01	5.90	1.59

Table 9. Summary of Water-Level Data for Monitoring Wells, November and December 1986, UOP Inc. Site, East Rutherford, New Jersey.

Well Number	Measuring Point Elevation (ft above mean sea level)	NOVEMBER 4, 1986		DECEMBER 2, 1986	
		Depth to Water (ft below measuring point)	Ground-Water Elevation (ft above mean sea level)	Depth to Water (ft below measuring point)	Ground-Water Elevation (ft above mean sea level)
17I	7.56	3.79	3.77	4.06	3.50
18I	6.59	3.29	3.30	2.99	3.60
19I	8.09	5.09	3.00	3.74	4.35
20I	7.94	4.93	3.01	4.13	3.81
21I	8.35	C	--	3.98	4.37
22I	7.09	3.48	3.61	2.76	4.33
23I	6.28	1.88	4.40	1.29	4.99
24I	7.13	3.34	3.79	3.03	4.10
25I	6.95	4.49	2.46	2.92	4.03
26I	8.30	4.46	3.84	4.31	3.99
27I	7.57	4.65	2.92	4.02	3.55
28I	7.68	4.54	3.14	3.17	4.51
29I	7.79	2.81	4.98	2.67	5.12
30I	9.46	5.69	3.77	5.45	4.01
31I	8.82	5.03	3.79	4.86	3.96
MW-3	5.79	3.42	2.37	3.20	2.59
MW-17	5.85	A	--	2.14	3.71

A - Well inaccessible
B - Water level not measured
C - Obstruction in well

Table 10. Water-Level Elevations Measured in Well Clusters 3 and 7, November 1983 to March 1987, UOP Site, East Rutherford, New Jersey (Units: ft above mean sea level)

Date	Well designation 3I	3D	7I	7D
11-30-83	2.16	2.68	4.39	3.08
12-06-83	2.52	3.27	5.04	3.57
12-14-83	2.55	3.50	4.82	3.87
12-21-83	1.85	3.73	3.84	4.08
12-28-83	0.96	4.10	3.65	5.71
1-4-84	1.89	4.50	3.77	5.90
1-12-84	1.27	4.58	3.52	5.42
1-18-84	1.37	4.65	3.94	5.33
1-20-84	1.80	4.65	3.97	6.39
1-26-84	2.00	4.68	3.95	5.47
2-8-84	2.15	4.83	4.01	5.53
2-24-84	2.50	5.17	4.96	6.49
12-26-84	2.22	3.92	1.52	2.98
2-12-85	2.29	3.24	2.53	2.22
3-5-85	2.69	2.75	3.26	1.63
10-10-85 (A)	2.49	0.55	2.97	-0.39
10-10-85 (B)	2.52	0.63	3.02	-0.31
11-4-86	2.93	3.42	1.99	2.53
12-2-86	3.14	4.29	3.15	4.33
3-24-87 (A)	3.52	6.66	3.29	6.20
3-24-87 (B)	3.53	6.69	3.22	6.22

Note: A - morning
B - afternoon

Table 11. Volatile Organic Compounds in Ground-Water Samples Collected from Wells 27I to 31I, December 1986, UOP Site, East Rutherford, New Jersey.

Data Reporting Qualifiers

< Indicates compound was analyzed for but not detected. The number is the minimum attainable detection limit for the sample.

B - This flag indicates the compound was found in the blank as well as the sample. It indicates possible/probable blank contamination and warns the data user to take appropriate action.

D - This flag indicates compounds whose concentrations are outside the calibration range of analysis.

J - This flag indicates an estimated value. It is used either when estimating a concentration for tentatively indentified compounds where a 1:1 response is assumed or when the mass spectral data indicated the presence of a compound that meets the identification criteria but the result is less than the specified detection limit but greater than zero (e.g., 10J). If limit of detection is 10 ug/L and a concentration of 3 ug/L is calculated, report as 3J.

[] Indicates the result is a value greater than or equal to the instrument detection limit but less than the contract required detection limit.

Laboratory: ERCO, Division of ENSECO, 205 Alewife Brook Parkway, Cambridge, Massachusetts 02138.

Table 11. Volatile Organics in Ground-Water Samples, Wells 27I-31I, UOP Site, E. Eutherford, NJ.

Well Number:	27I	28I	29I	29I Replicate‡	30I	31I	Field Blank	Trip Blank
Date Sampled:	12/2/86	12/2/86	12/2/86	12/2/86	12/2/86	12/2/86	12/2/86	12/1/86
[units: ug/L (ppb)]								
chloromethane	<100	<10	<10	<10	<10	<10	<10	<10
bromomethane	<100	<10	<10	<10	<10	<10	<10	<10
vinyl chloride	320	<10	<10	<10	<10	<10	<10	<10
chloroethane	<100	<10	<10	<10	<10	<10	<10	<10
methylene chloride	<50	1.8JB	7.0B	3.9B	8.1B	2.6B	28B	7.0B
acetone	170	30	16	24	<10	<10	<10	<10
carbon disulfide	<50	<5	<5	<5	<5	<5	<5	<5
1,1-dichloroethene	23J	<5	<5	<5	<5	<5	<5	<5
1,1-dichloroethane	<50	<5	<5	<5	<5	<5	<5	<5
trans-1,2-dichloroethene	6300D	<5	4.2J	3.9J	<5	<5	<5	<5
chloroform	<50	<5	<5	<5	<5	<5	<5	<5
1,2-dichloroethane	480	1.7J	1.7B	.85B	<5	<5	<5	<5
2-butanone	<100	<10	<10	<10	<10	<10	<10	<10
1,1,1-trichloroethane	<50	<5	<5	<5	<5	<5	<5	<5
carbon tetrachloride	<150	<5	<5	<5	<5	<5	<5	<5
vinyl acetate	<100	<10	<10	<10	<10	<10	<10	<10
bromodichloromethane	<50	<5	<5	<5	<5	<5	<5	<5
1,2-dichloropropane	<50	<5	<5	<5	<5	<5	<5	<5
trans-1,3-dichloropropene	<50	<5	<5	<5	<5	<5	<5	<5
trichloroethene	21000D	9.3	<5	<5	<5	<5	<5	<5
dibromochloromethane	<50	<5	<5	<5	<5	<5	<5	<5
1,1,2-trichloroethane	27J	<5	<5	<5	<5	<5	<5	<5
benzene	2100	<5	1.2J	3.2J	<5	<5	<5	<5
cis-1,3-dichloropropene	<50	<5	<5	<5	<5	<5	<5	<5
2-chloroethylvinylether	<100	<10	<10	<10	<10	<10	<10	<10
bromoform	<50	<5	<5	<5	<5	<5	<5	<5
4-methyl-2-pentanone	370	<10	<10	<10	<10	<10	<10	<10
2-hexanone	<100	<10	<10	<10	<10	<10	<10	<10
tetrachloroethene	750	<5	<5	<5	<5	<5	<5	<5
1,1,2,2-tetrachloroethane	1600	<5	<5	2.0J	<5	<5	<5	<5
toluene	14000D	3.0J	.72J	1.9B	<5	<5	<5	<5
chlorobenzene	1300	1200D	<5	<5	<5	<5	<5	<5
ethylbenzene	2800	100	<5	<5	<5	<5	<5	<5
styrene	<50	<5	<5	<5	<5	<5	<5	<5
total xylenes	15000D	31	<5	<5	<5	<5	<5	<5

‡ - Replicate for Well 29I was laboratory blind and therfore coded in the field as 40I. The laboratory report reflects this coding.

Table 12. Base/Neutral and Acid Extractable Organic Compounds in Ground-Water Samples Collected from Wells 27I to 31I, December 1986, UOP Site, East Rutherford, New Jersey.

Data Reporting Qualifiers

< Indicates compound was analyzed for but not detected. The number is the minimum attainable detection limit for the sample.

B - This flag indicates the compound was found in the blank as well as the sample. It indicates possible/probable blank contamination and warns the data user to take appropriate action.

J - This flag indicates an estimated value. It is used either when estimating a concentration for tentatively indentified compounds where a 1:1 response is assumed or when the mass spectral data indicated the presence of a compound that meets the identification criteria but the result is less than the specified detection limit but greater than zero (e.g., 10J). If limit of detection is 10 ug/L and a concentration of 3 ug/L is calculated, report as 3J.

Laboratory: ERCO, Division of ENSECO, 205 Alewife Brook Parkway, Cambridge, Massachusetts 02138.

Table 12. Base/Neutral & Acid Extractable Compounds in Ground-Water Samples, Wells 271-311, UOP Site, E. Rutherford, NJ.

Well Number:	271	281	291	291R	301	311	Field Blank
Date Sampled:	12/2/86	12/2/86	12/2/86	12/2/86	12/2/86	12/2/86	12/2/86
[units: ug/L (ppb)]							
phenol	<80	<40	<20	<40	<20	<20	<100
bis-(2-chloroethyl)ether	<80	<40	<20	<40	<20	<20	<100
2-chlorophenol	<80	<40	<20	<40	<20	<20	<100
1,3-dichlorobenzene	100	15J	<20	<40	<20	<20	<100
1,4-dichlorobenzene	470	51	<20	<40	<20	<20	<100
benzyl alcohol	<80	120	<20	<40	<20	<20	<100
1,2-dichlorobenzene	2500	5.2J	<20	<40	<20	<20	<100
2-methylphenol	<80	<40	<20	<40	<20	<20	<100
bis(2-chloroisopropyl)ether	<80	<40	<20	<40	<20	<20	<100
4-methylphenol	<80	<40	<20	<40	<20	<20	<100
n-nitroso-di-n-propylamine	<80	<40	<20	<40	<20	<20	<100
hexachloroethane	<80	<40	<20	<40	<20	<20	<100
nitrobenzene	<80	<40	<20	<40	<20	<20	<100
isophorone	<80	<40	<20	<40	<20	<20	<100
2-nitrophenol	<80	<40	<20	<40	<20	<20	<100
2,4-dimethylphenol	<80	<40	<20	<40	<20	<20	<100
benzoic acid	8700	<40	<20	<40	2.8J	<20	<100
bis(2-chloroethoxy)methane	<80	<40	<20	<40	<20	<20	<100
2,4-dichlorophenol	<80	<40	<20	<40	<20	<20	<100
1,2,4-trichlorobenzene	460	<40	<20	<40	<20	<20	<100
naphthalene	720	170	<20	70	2.0J	<20	<100
4-chloroaniline	<80	<40	<20	<40	<20	<20	<100
hexachlorobutadiene	<80	<40	<20	<40	<20	<20	<100
4-chloro-3-methylphenol	<80	<40	<20	<40	<20	<20	<100
2-methylnaphthalene	440	<40	<20	33J	<20	<20	<100
hexachlorocyclopentadiene	<80	<40	<20	<40	<20	<20	<100
2,4,6-trichlorophenol	<80	<40	<20	<40	<20	<20	<100
2,4,5-trichlorophenol	<80	<40	<20	<40	<20	<20	<100
2-chloronaphthalene	<80	<40	<20	<40	<20	<20	<100
2-nitroaniline	<80	<40	<20	<40	<20	<20	<100
dimethyl phthalate	<80	<40	<20	<40	<20	<20	<100
acenapthylene	<80	<40	<20	<40	<20	<20	<100
3-nitroaniline	<80	<40	<20	<40	<20	<20	<100
acenaphthene	<80	<40	<20	22J	<20	<20	<100
2,4-dinitrophenol	<80	<40	<20	<40	<20	<20	<100
4-nitrophenol	<80	<40	<20	<40	<20	<20	<100
dibenzofuran	<80	<40	<20	17J	<20	<20	<100
2,4-dinitrotoluene	<80	<40	<20	<40	<20	<20	<100
2,6-dinitrotoluene	<80	<40	<20	<40	<20	<20	<100
diethylphthalate	210	4.8J	<20	<40	<20	<20	<100
4-chlorophenyl-phenylether	<80	<40	<20	<40	<20	<20	<100
fluorene	<80	<40	<20	18J	<20	<20	<100
4-nitroaniline	<80	<40	<20	<40	<20	<20	<100
4,6-dinitro-2-methylphenol	<80	<40	<20	<40	<20	<20	<100
n-nitrosodiphenylamine(1)	11B	6.0B	2.2B	14B	3.4B	5.0B	13B
4-bromophenyl-phenylether	<80	<40	<20	<40	<20	<20	<100
hexachlorobenzene	23J	<40	<20	<40	<20	<20	<100
pentachlorophenol	<80	<40	<20	<40	6.6J	<20	<100
phenanthrene	<80	<40	<20	22J	<20	<20	<100
anthracene	<80	<40	<20	4.4J	<20	<20	<100

Table 12. Base/Neutral & Acid Extractable Compounds in Ground-Water Samples, Wells 27I-31I, UOP Site, E. Rutherford, NJ.

Well Number:	27I	28I	29I	29I‡	30I	31I	Field Blank
Date Sampled:	12/2/86	12/2/86	12/2/86	12/2/86	12/2/86	12/2/86	12/2/86
[units: ug/L (ppb)]							
di-n-butylphthalate	<80	<40	<20	<40	<20	<20	<100
fluoranthene	14J	<40	<20	6.0J	<20	<20	<100
pyrene	<80	<40	<20	6.0J	<20	<20	<100
butylbenzylphthalate	<80	<40	<20	<40	<20	<20	<100
3,3-dichlorobenzidine	<80	<40	<20	<40	<20	<20	<100
benzo(a)anthracene	<80	<40	<20	<40	<20	<20	<100
bis(2-ethylhexyl)phthalate	200	53	5.2J	22J	7.6J	16J	<100
chrysene	<80	<40	<20	<40	<20	<20	<100
di-n-octyl phthalate	<80	<40	<20	<40	<20	<20	<100
benzo(b)fluoroanthene	<80	<40	<20	<40	<20	<20	<100
benzo(k)fluoranthene	<80	<40	<20	<40	<20	<20	<100
benzo(a)pyrene	<80	<40	<20	<40	<20	<20	<100
indeno(1,2,3-c,d)pyrene	<80	<40	<20	<40	<20	<20	<100
dibenzo (a,h)anthracene	<80	<40	<20	<40	<20	<20	<100
benzo(g,h,i)perylene	<80	<40	<20	<40	<20	<20	<100

‡ - Replicate for Well 29I was laboratory blind and therfore coded in the field as 40I. The laboratory report reflects this coding.

Table 13. Pesticides and PCBs in Ground-Water Samples Collected from Wells 1S to 31I, MW-3, and MW-17, January 1985 and December 1986, UOP Site, East Rutherford, New Jersey.

Data Reporting Qualifiers

< Indicates compound was analyzed for but not detected. The number is the minimum attainable detection limit for the sample.

-- Indicates compound not included in analysis scan. (Samples were analyzed using either USEPA Method 608 or 625.)

# Indicates PCB concentration was reported as a total.

Laboratories: Measurement Sciences Corporation, 300 Garden City Plaza, Garden City, New York 11530. (January 1985 data)

ERCO, Division of ENSECO, 205 Alewife Brook Parkway, Cambridge, Massachusetts 02138. (December 1986 data)

Table 13. Pesticides & PCBs in Ground-Water Samples, Wells 1S-31I, MW-3 & MW-17, UOP Site, E. Rutherford, NJ.

Well Number:	1S	2S	2I	3I	Replicate 3I	3D	4I	5I
Date Sampled:	1/85	1/85	1/85	1/85	1/85	1/85	1/85	1/85
[units: ug/L (ppb)]								
Alpha-BHC	--	--	--	--	--	--	--	--
Beta-BHC	<10	<10	<10	<10	<10	<10	<10	<10
Delta-BHC	<10	<10	<10	<10	<10	<10	<10	<10
Gamma-BHC (Lindane)	--	--	--	--	--	--	--	--
Heptachlor	<10	<10	<10	<10	<10	<10	<10	<10
Aldrin	<10	<10	<10	<10	<10	<10	<10	<10
Heptachlor Epoxide	<10	<10	<10	<10	<10	<10	<10	<10
Endosulfan I	--	--	--	--	--	--	--	--
Dieldrin	<10	<10	<10	<10	<10	<10	<10	<10
4,4'-DDE	<10	<10	<10	<10	<10	<10	<10	<10
Endrin	--	--	--	--	--	--	--	--
Endosulfan II	--	--	--	--	--	--	--	--
4,4'-DDD	<10	<10	<10	<10	<10	<10	<10	<10
Endosulfan Sulfate	<20	<20	<20	<20	<20	<20	<20	<20
4,4'-DDT	<10	<10	<10	<10	<10	<10	<10	<10
Methoxychlor	--	--	--	--	--	--	--	--
Endrin Ketone	--	--	--	--	--	--	--	--
Chlordane	<100	<100	<100	<100	<100	<100	<100	<100
Toxaphene	<500	<500	<500	<500	<500	<500	<500	<500
Aroclor-1016	--	--	--	--	--	--	--	--
Aroclor-1221	--	--	--	--	--	--	--	--
Aroclor-1232	--	--	--	--	--	--	--	--
Aroclor-1242	--	--	--	--	--	--	--	--
Aroclor-1248	--	--	--	--	--	--	--	--
Aroclor-1254	--	--	--	--	--	--	--	--
Aroclor-1260	--	--	--	--	--	--	--	--
PCB (Total) #	<50	<50	<50	<50	<50	<50	<50	<50

Table 13. Pesticides & PCBs in Ground-Water Samples, Wells 1S-31I, MW-3 & MW-17, UOP Site, E. Rutherford, NJ.

Well Number:	6I	Replicate 6I	7S	7I	7D	8I	9I	10I
Date Sampled:	1/85	1/85	1/85	1/85	1/85	1/85	1/85	1/85
[units: ug/L (ppb)]								
Alpha-BHC	--	--	--	--	--	--	--	--
Beta-BHC	<10	<10	<10	<10	<10	<10	<10	<10
Delta-BHC	<10	<10	<10	<10	<10	<10	<10	<10
Gamma-BHC (Lindane)	--	--	--	--	--	--	--	--
Heptachlor	<10	<10	<10	<10	<10	<10	<10	<10
Aldrin	<10	<10	<10	<10	<10	<10	<10	<10
Heptachlor Epoxide	<10	<10	<10	<10	<10	<10	<10	<10
Endosulfan I	--	--	--	--	--	--	--	--
Dieldrin	<10	<10	<10	<10	<10	<10	<10	<10
4,4'-DDE	<10	<10	<10	<10	<10	<10	<10	<10
Endrin	--	--	--	--	--	--	--	--
Endosulfan II	--	--	--	--	--	--	--	--
4,4'-DDD	<10	<10	<10	<10	<10	<10	<10	<10
Endosulfan Sulfate	<20	<20	<20	<20	<20	<20	<20	<20
4,4'-DDT	<10	<10	<10	<10	<10	<10	<10	<10
Methoxychlor	--	--	--	--	--	--	--	--
Endrin Ketone	--	--	--	--	--	--	--	--
Chlordane	<100	<100	<100	<100	<100	<100	<100	<100
Toxaphene	<500	<500	<500	<500	<500	<500	<500	<500
Aroclor-1016	--	--	--	--	--	--	--	--
Aroclor-1221	--	--	--	--	--	--	--	--
Aroclor-1232	--	--	--	--	--	--	--	--
Aroclor-1242	--	--	--	--	--	--	--	--
Aroclor-1248	--	--	--	--	--	--	--	--
Aroclor-1254	--	--	--	--	--	--	--	--
Aroclor-1260	--	--	--	--	--	--	--	--
PCB (Total) #	<50	<50	<50	<50	<50	<50	<50	<50

Table 13. Pesticides & PCBs in Ground-Water Samples, Wells 1S-31I, MW-3 & MW-17, UOP Site, E. Rutherford, NJ.

Well Number:	11I	12I	13I	14I	15I	16I	17I	18I
Date Sampled:	1/85	1/85	1/85	1/85	1/85	1/85	1/85	1/85
[units: ug/L (ppb)]								
Alpha-BHC	--	<0.05	<0.50	<0.05	<0.5	<0.05	<0.05	<0.05
Beta-BHC	<10	<0.05	<0.50	<0.05	<0.5	<0.05	<0.05	<0.05
Delta-BHC	<10	<0.05	<0.50	<0.05	<0.5	<0.05	<0.05	<0.05
Gamma-BHC (Lindane)	--	<0.05	<0.50	<0.05	<0.5	<0.05	<0.05	<0.05
Heptachlor	<10	<0.05	<0.50	<0.05	<0.5	<0.05	<0.05	<0.05
Aldrin	<10	<0.05	<0.50	<0.05	<0.5	<0.05	<0.05	<0.05
Heptachlor Epoxide	<10	<0.05	<0.50	<0.05	<0.5	<0.05	<0.05	<0.05
Endosulfan I	--	<0.10	<1.0	<0.10	<1.0	<0.10	<1.0	<0.10
Dieldrin	<10	<0.10	<1.0	<0.10	<1.0	<0.10	<1.0	<0.10
4,4'-DDE	<10	<0.10	<1.0	<0.10	<1.0	<0.10	<1.0	<0.10
Endrin	--	<0.10	<1.0	<0.10	<1.0	<0.20	<1.0	<0.10
Endosulfan II	--	<0.10	<1.0	<0.10	<1.0	<0.10	<1.0	<0.10
4,4'-DDD	<10	<0.20	<2.0	<0.20	<2.0	<0.20	<2.0	<0.20
Endosulfan Sulfate	<20	<0.20	<2.0	<0.20	<2.0	<1.0	<2.0	<0.20
4,4'-DDT	<10	<0.20	<2.0	<0.20	<2.0	<0.20	<2.0	<0.20
Methoxychlor	--	<1.0	<10	<1.0	<10	<1.0	<10	<1.0
Endrin Ketone	--	--	--	--	--	--	--	--
Chlordane	<100	<1.0	<10	<1.0	<10	<1.0	<10	<1.0
Toxaphene	<500	<10	<100	<10	<100	<10	<100	<10
Aroclor-1016	--	--	--	--	--	--	--	--
Aroclor-1221	--	--	--	--	--	--	--	--
Aroclor-1232	--	--	--	--	--	--	--	--
Aroclor-1242	--	<1.0	<10	<1.0	<10	<1.0	<10	<1.0
Aroclor-1248	--	<1.0	22	<1.0	13	<1.0	<10	<1.0
Aroclor-1254	--	<1.0	<10	<1.0	<10	<1.0	<10	<1.0
Aroclor-1260	--	<1.0	<10	<1.0	<10	<1.0	<10	<1.0
PCB (Total) #	<50	--	--	--	--	--	--	--

Table 13. Pesticides & PCBs in Ground-Water Samples, Wells 1S-31I, MW-3 & MW-17, UOP Site, E. Rutherford, NJ.

		Replicate						Replicate
Well Number:	19I	19I	20I	21I	22I	23I	24I	24I
Date Sampled:	1/85	1/85	1/85	1/85	1/85	1/85	1/85	1/85
[units: ug/L (ppb)]								
Alpha-BHC	<0.05	<0.05	<0.05	<0.50	<0.50	<5.0	<0.5	<5.0
Beta-BHC	<0.05	<0.05	<0.05	<0.50	<0.50	<5.0	<0.5	<5.0
Delta-BHC	<0.05	<0.05	<0.05	<0.50	<0.50	<5.0	<0.5	<5.0
Gamma-BHC (Lindane)	<0.05	<0.05	<0.05	<0.50	<0.50	<5.0	<0.5	<5.0
Heptachlor	<0.05	<0.05	<0.05	<0.50	<0.50	<5.0	<0.5	<5.0
Aldrin	<0.05	<0.05	<0.05	<0.50	<0.50	<5.0	<0.5	<5.0
Heptachlor Epoxide	<0.05	<0.05	<0.05	<0.50	<0.50	<10	<0.5	<5.0
Endosulfan I	<0.10	<0.10	<0.10	<1.0	<1.0	<10	<1.0	<10
Dieldrin	<0.10	<0.10	<0.10	<1.0	<1.0	<10	<1.0	<10
4,4'-DDE	<0.10	<0.10	<0.10	<1.0	<1.0	<10	<1.0	<10
Endrin	<0.10	<0.10	<0.10	<1.0	<1.0	<10	<1.0	<10
Endosulfan II	<0.10	<0.10	<0.10	<1.0	<1.0	<10	<1.0	<10
4,4'-DDD	<0.20	<0.20	<0.20	<2.0	<2.0	<20	<2.0	<20
Endosulfan Sulfate	<0.20	<0.20	<0.20	<2.0	<2.0	<20	<2.0	<20
4,4'-DDT	<0.20	<0.20	<0.20	<2.0	<2.0	<20	<2.0	<20
Methoxychlor	<1.0	<1.0	<1.0	<2.0	<10	<100	<2.0	<100
Endrin Ketone	--	--	--	--	--	--	--	--
Chlordane	<1.0	<1.0	<1.0	<10	<10	<100	<10	<100
Toxaphene	<10	<10	<10	<100	<100	<1000	<100	<1000
Aroclor-1016	--	--	--	--	--	--	--	--
Aroclor-1221	--	--	--	--	--	--	--	--
Aroclor-1232	--	--	--	--	--	--	--	--
Aroclor-1242	<1.0	<1.0	<1.0	<10	<10	<100	<10	<100
Aroclor-1248	<1.0	<1.0	<1.0	<10	<10	1,100	<10	<100
Aroclor-1254	<1.0	<1.0	<1.0	<10	<10	<100	<10	<100
Aroclor-1260	<1.0	<1.0	<1.0	<10	<10	<100	<10	<100
PCB (Total) #	--	--	--	--	--	--	--	--

Table 13. Pesticides & PCBs in Ground-Water Samples, Wells 1S-31I, MW-3 & MW-17, UOP Site, E. Rutherford, NJ.

Well Number:	25I	26I	Replicate 26I	MW-3	MW-17	Replicate MW-17	Field Blank 1	Field Blank 2
Date Sampled:	1/85	1/85	1/85	1/85	1/85	1/85	1/85	1/85
[units: ug/L (ppb)]								
Alpha-BHC	<0.5	<0.05	<0.05	--	--	--	--	<0.05
Beta-BHC	<0.5	<0.05	<0.05	<10	<10	<10	<10	<0.05
Delta-BHC	<0.5	<0.05	<0.05	<10	<10	<10	<10	<0.05
Gamma-BHC (Lindane)	<0.5	<0.05	<0.05	--	--	--	--	<0.05
Heptachlor	<0.5	<0.05	<0.05	<10	<10	<10	<10	<0.05
Aldrin	<0.5	<0.05	<0.05	<10	<10	<10	<10	<0.05
Heptachlor Epoxide	<0.5	<0.05	<0.05	<10	<10	<10	<10	<0.05
Endosulfan I	<1.0	<0.10	<0.10	--	--	--	--	<0.10
Dieldrin	<1.0	<0.10	<0.10	<10	<10	<10	<10	<0.10
4,4'-DDE	<1.0	<0.10	<0.10	<10	<10	<10	<10	<0.10
Endrin	<1.0	<0.20	<0.10	--	--	--	--	<0.10
Endosulfan II	<1.0	<0.10	<0.10	--	--	--	--	<0.10
4,4'-DDD	<2.0	<0.20	<0.20	<10	<10	<10	<10	<0.20
Endosulfan Sulfate	<2.0	<0.20	<0.20	<20	<20	<20	<20	<0.20
4,4'-DDT	<2.0	<0.20	<0.20	<10	<10	<10	<10	<0.20
Methoxychlor	<10	<1.0	<1.0	--	--	--	--	<1.0
Endrin Ketone	--	--	--	--	--	--	--	--
Chlordane	<10	<1.0	<1.0	<100	<100	<100	<100	<1.0
Toxaphene	<100	<10	<10	<500	<500	<500	<500	<10
Aroclor-1016	--	--	--	--	--	--	--	--
Aroclor-1221	--	--	--	--	--	--	--	--
Aroclor-1232	--	--	--	--	--	--	--	--
Aroclor-1242	<10	<1.0	<1.0	--	--	--	--	<1.0
Aroclor-1248	46	4.3	3.2	--	--	--	--	<1.0
Aroclor-1254	<10	<1.0	<1.0	--	--	--	--	<1.0
Aroclor-1260	<10	<1.0	<1.0	--	--	--	--	<1.0
PCB (Total) #	--	--	--	<50	<50	<50	<50	--

Table 13. Pesticides & PCBs in Ground-Water Samples, Wells 1S-31I, MW-3 & MW-17, UOP Site, E. Rutherford, NJ.

Well Number:	Field Blank 3	Field Blank 4	Field Blank 5	27I	28I	29I	Replicate 29I	30I
Date Sampled:	1/85	1/85	1/85	12/2/86	12/2/86	12/2/86	12/2/86	12/2/86
[units: ug/L (ppb)]								
Alpha-BHC	--	--	--	<0.50	<0.05	<0.05	<0.05	<0.05
Beta-BHC	<10	<10	<10	<0.50	<0.05	<0.05	<0.05	<0.05
Delta-BHC	<10	<10	<10	<0.50	<0.05	<0.05	<0.05	<0.05
Gamma-BHC (Lindane)	--	--	--	<0.50	<0.05	<0.05	<0.05	<0.05
Heptachlor	<10	<10	<10	<0.50	<0.05	<0.05	<0.05	<0.05
Aldrin	<10	<10	<10	<0.50	<0.05	<0.05	<0.05	<0.05
Heptachlor Epoxide	<10	<10	<10	<0.50	<0.05	<0.05	<0.05	<0.05
Endosulfan I	--	--	--	<0.50	<0.05	<0.05	<0.05	<0.05
Dieldrin	<10	<10	<10	<10	<0.10	<0.10	<0.10	<0.10
4,4'-DDE	<10	<10	<10	<10	<0.10	<0.10	<0.10	<0.10
Endrin	--	--	--	<10	<0.10	<0.10	<0.10	<0.10
Endosulfan II	--	--	--	<10	<0.10	<0.10	<0.10	<0.10
4,4'-DDD	<10	<10	<10	<10	<0.10	<0.10	<0.10	<0.10
Endosulfan Sulfate	<20	<20	<20	<10	<0.10	<0.10	<0.10	<0.10
4,4'-DDT	<10	<10	<10	<10	<0.10	<0.10	<0.10	<0.10
Methoxychlor	--	--	--	<50	<0.50	<0.50	<0.50	<0.50
Endrin Ketone	--	--	--	<10	<0.10	<0.10	<0.10	<0.10
Chlordane	<100	<100	<100	<50	<0.50	<0.50	<0.50	<0.50
Toxaphene	<500	<500	<500	<10	<1.0	<1.0	<1.0	<1.0
Aroclor-1016	--	--	--	<50	<0.50	<0.50	<0.50	<0.50
Aroclor-1221	--	--	--	<50	<0.50	<0.50	<0.50	<0.50
Aroclor-1232	--	--	--	<50	<0.50	<0.50	<0.50	<0.50
Aroclor-1242	--	--	--	<50	<0.50	<0.50	<0.50	<0.50
Aroclor-1248	--	--	--	<50	<0.50	<0.50	<0.50	<0.50
Aroclor-1254	--	--	--	<50	<0.50	<0.50	<0.50	<0.50
Aroclor-1260	--	--	--	<50	<0.50	<0.50	<0.50	<0.50
PCB (Total) #	<50	<50	<50	--	--	--	--	--

Table 13. Pesticides & PCBs in Ground-Water Samples, Wells 1S-31I, MW-3 & MW-17, UOP Site, E. Rutherford, NJ.

Well Number:	31I	Field Blank
Date Sampled:	12/2/86	12/2/86
[units: ug/L (ppb)]		
Alpha-BHC	<0.05	<0.05
Beta-BHC	<0.05	<0.05
Delta-BHC	<0.05	<0.05
Gamma-BHC (Lindane)	<0.05	<0.05
Heptachlor	<0.05	<0.05
Aldrin	<0.05	<0.05
Heptachlor Epoxide	<0.05	<0.05
Endosulfan I	<0.05	<0.05
Dieldrin	<0.10	<0.10
4,4'-DDE	<0.10	<0.10
Endrin	<0.10	<0.10
Endosulfan II	<0.10	<0.10
4,4'-DDD	<0.10	<0.10
Endosulfan Sulfate	<0.10	<0.10
4,4'-DDT	<0.10	<0.10
Methoxychlor	<0.50	<0.50
Endrin Ketone	<0.10	<0.10
Chlordane	<0.50	<0.50
Toxaphene	<1.0	<1.0
Aroclor-1016	<0.50	<0.50
Aroclor-1221	<0.50	<0.50
Aroclor-1232	<0.50	<0.50
Aroclor-1242	<0.50	<0.50
Aroclor-1248	<0.50	<0.50
Aroclor-1254	<0.50	<0.50
Aroclor-1260	<0.50	<0.50
PCB (Total) #	--	--

Table 14. Metals and Cyanide in Ground-Water Samples Collected from Wells 27I to 31I, December 1986, UOP Site, East Rutherford, New Jersey.

Data Reporting Qualifiers

< Indicates compound was analyzed for but not detected. The number is the minimum attainable detection limit for the sample.

[] Indicates the result is a value greater than or equal to the instrument detection limit but less than the contract required detection limit.

Laboratory: ERCO, Division of ENSECO, 205 Alewife Brook Parkway, Cambridge, Massachusetts 02138.

Table 14. Metals & Cyanide in Ground-Water Samples, Wells 27I-31I, UOP Site, E. Rutherford, NJ.

Well Number:	27I	28I	29I	Replicate‡ 29I	30I	31I	Field Blank
Date Sampled:	12/2/86	12/2/86	12/2/86	12/2/86	12/2/86	12/2/86	12/2/86
[units: ug/L (ppb)]							
Arsenic	60	<10	<10	<10	<10	<10	<10
Cadmium	<5	<5	<5	<5	<5	<5	<5
Chromium	<5	<5	[7.0]	<5	<5	<5	<5
Cyanide	12	<10	20	20	<10	13	<10
Lead	<50	<5	<5	<5	<5	7.2	6.1
Manganese	<4	1160	2960	2870	387	653	<4
Mercury	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Zinc	38	[11]	[14]	[3.8]	67	45	38

‡ - Replicate for Well 29I was laboratory blind and therfore coded in the field as 40I. The laboratory report reflects this coding.

Table 15. Ground-Water Samples with Metals Exceeding Primary Drinking Water Standards, UOP Site, East Rutherford, New Jersey.

Arsenic (Primary Standard: 0.05 mg/L)

Well	Concentration (mg/L)	Sampling Month
7I	0.06	1/85
11I	0.11	1/85
MW17	.066	1/85
27I	.06	12/86

Chromium (Primary Standard: 0.05 mg/L)

Well	Concentration (mg/L)	Sampling Month
26I	0.15/<0.02 (replicates)	1/85

Lead (Primary Standard: 0.05 mg/L)

Well	Concentration (mg/L)	Sampling Month
2S	.058	12/83
2I	.076	11/83
3S	.11	11/83
3I	.09	11/83
4I	.28	11/83
7S	.088	11/83
8I	.06	11/83
11I	.052	11/83
MW17	.08	11/83
26I	.14/.005 (replicates)	1/85

Cadmium (Primary Standard: 0.01 mg/L)

No cadmium concentration in ground water above 0.01 mg/L.

Mercury (Primary Standard: 0.002 mg/L)

No mercury concentration in ground water above 0.002 mg/L.

Table 15. Ground-Water Samples with Metals Exceeding Primary Drinking Water Standards, UOP Site, East Rutherford, New Jersey.

Selenium (Primary Standard: 0.01 mg/L)

No selenium concentration in ground water above 0.01 mg/L.

Silver (Primary Standard: 0.05 mg/L)

No silver concentration in ground water above 0.05 mg/L.

Table 16. Comparison of Soil and Ground-Water Quality, 1984-1986 Data, UOP Site, East Rutherford, New Jersey.

Ground Water			Soil		
Well designation	Prominent compounds	Concentration (ug/L)	Adjacent/coincident boring designation and sample depth	Prominent compounds	Concentration (ug/kg)
AREA 1					
17I	benzene	35,000	17I, 0 - 2'	fluoranthene	1,100
	chlorobenzene	21,000	(Unsaturated)	pyrene	1,000
				manganese	650
15I	None		15I, 0 - 2'	phenanthrene	1,200
			(Unsaturated)	fluoranthene	1,000
				pyrene	1,000
22I	chlorobenzene	2,300	22I, 0 - 2'	none	
	1,2-dichlorobenzene	2,000	(Unsaturated)		
19I	chlorobenzene	5,700	19I, 0 - 2'	manganese	470,000
	1,2-dichlorobenzene	2,000	(Unsaturated)		
24I	benzene	890	24I, 0 - 2'	fluoranthene	890
	ethylbenzene	640	(Unsaturated)	pyrene	790
	toluene	1,600			
21I	benzene	6,300	21I, 0 - 2'	1,2,4-trichloro-benzene	820
	toluene	870	(Unsaturated)	lead	700,000
				zinc	480,000
				1,1,2,2-tetra-chloroethane	450

Table 16. Comparison of Soil and Ground-Water Quality, 1984-1986 Data, UOP Site, East Rutherford, New Jersey.

Ground Water			Soil		
Well designation	Prominent compounds	Concentration (ug/L)	Adjacent/coincident boring designation and sample depth	Prominent compounds	Concentration (ug/kg)
AREA 1A					
27I	trans-1,2-dichloroethene	6,300	B1A-7, 0 - 2' (Unsaturated)	bis(2-ethyl) phthalate	300C
	trichloroethene	21,000	B1A-7, 4 - 6' (Saturated)	manganese	567,000
	toluene	14,000		bis(2-ethylhexyl) phthalate	1,300C
	xylene	15,000			
	benzene	2,100			
	1,1,2,2-tetrachloroethane	1,600			
	ethylbenzene	2,800			
	chlorobenzene	1,300			
	1,2-dichlorobenzene	2,500			
	benzoic acid	8,700			
28I	chlorobenzene	1,200	B1A-8, 0 - 2' (Unsaturated)	1,2,4-trichlorobenzene	2,200
			B1A-8, 2 - 4' (Saturated)	naphthalene	5,600
	manganese	1,160		2-methylnaphthalene	1,100
				bis(2-ethylhexyl) phthalate	1,300
				acetone	3,300
				chromium	632,000
				lead	902,000
				manganese	1,380,000
				mercury	1,200
				zinc	2,200,000
AREA 2					
13I	benzene	44,000	13I, 0 - 2' (Unsaturated)	benzene	1,000
	toluene	160,000		toluene	15,000
				manganese	1,600,000

Table 16. Comparison of Soil and Ground-Water Quality, 1984-1986 Data, UOP Site, East Rutherford, New Jersey.

Ground Water			Soil		
Well designation	Prominent compounds	Concentration (ug/L)	Adjacent/coincident boring designation and sample depth	Prominent compounds	Concentration (ug/kg)
14I	xylene	530	14I, 0 - 2'	1,2-dichloro-	
	1,2-dichlorobenzene	1,300	(Unsaturated)	benzene	1,400
				phenanthrene	1,100
				fluoranthene	1,100
				pyrene	1,100
12I	benzene	770	12I, 0 - 2'	none	
	chlorobenzene	910	(Unsaturated)		
16I	1,2-trans-dichloro-		16I, 0 - 2'	lead	330,000
	ethene	980	(Unsaturated)	zinc	520,000
	vinyl chloride	1,000			
23I	benzene	860	23I, 0 - 2'	isophorone	3,100,000
	toluene	870	(Unsaturated)	chromium	300,000
	PCBs	1,100		manganese	1,700,000
AREA 5					
20I	----		20I, 0 - 2'	naphthalene	1,600
			(Unsaturated)	chromium	104,000
				manganese	430,000
25I	PCBs	46	25I, 0 - 2'	fluoranthene	710
			(Unsaturated)	lead	170,000
26I	PCBs	4.3	26I, 0 - 2'	none	
	lead	140	(Unsaturated)		
	chromium	150			

Table 16. Comparison of Soil and Ground-Water Quality, 1984-1986 Data, UOP Site, East Rutherford, New Jersey.

Ground Water			Soil		
Well designation	Prominent compounds	Concentration (ug/L)	Adjacent/coincident boring designation and sample depth	Prominent compounds	Concentration (ug/kg)
29I	manganese	2,960	B5-9, 0 - 2' (Unsaturated)	fluoranthene	1,900
				pyrene	1,600
				benzo(a)anthracene	1,000
				chrysene	1,200
				benzo(b and k) fluoranthene	2,200
				benzo(a)pyrene	1,300
				Aroclor 1248	1,500
				chromium	124,000
				mercury	1,700
			B5-9, 8 - 10' (Saturated)	naphthalene	4,200
				2-methylnaphthalene	2,000
				fluorene	1600
				phenanthrene	8500
				fluoranthene	2500
				acenaphthene	1900
30I	manganese	387	B5-11, 0 - 2' (Unsaturated)	Aroclor 1254	640
				benzoic acid	20,000
				cadmium	6,200
				lead	1,820,000
				manganese	1,090,000
				zinc	1,530,000
			B5-11, 10 - 12' (Saturated)	manganese	961,000

Table 16. Comparison of Soil and Ground-Water Quality, 1984-1986 Data, UOP Site, East Rutherford, New Jersey.

Ground Water			Soil		
Well designation	Prominent compounds	Concentration (ug/L)	Adjacent/coincident boring designation and sample depth	Prominent compounds	Concentration (ug/kg)
31I	manganese	653	B5-12, 0 - 2' (Unsaturated)	Aroclor 1254	290
				bis(2-ethylhexyl) phthalate	1,000
				lead	1,730,000
				mercury	1,600
			B5-12, 6 - 8' (Saturated)	Aroclor 1254	450
				Aroclor 1248	2100
				bis(2-ethylhexyl) phthalate	14,000
				chromium	273,000
				lead	693,000
				zinc	709,000
				mercury	2,700
				manganese	657,000

Note: C - Compound was found in the blank as well as in the sample, indicating possible/probable contamination.

Table 17. Summary of Surface Water Quality Data, 1983-1985, UOP Site, East Rutherford, New Jersey.

Data Reporting Qualifiers

< Indicates compound was analyzed for but not detected. The number is the minimum attainable detection limit for the sample.

** Indicates a blind replicate sample.

NA Indicates compound not analyzed for.

Laboratory: Measurement Sciences Corporation, 300 Garden City Plaza, Garden City, New York 11530.

Table 17. Summary of Surface Water Quality Data, 1983-1985, UOP Site, East Rutherford, New Jersey.

Sampling Station:	ST-1		ST-2	ST-3			ST-4
Volatile Organic Compounds [Units: ug/L (ppb)] Date Sampled:	11/83	1/85	11/83	11/83	11/83 **	1/85	11/83
Acrolein	<100	<100	<100	<100	<100	<200	<100
Acrylonitrile	<100	<100	<100	<100	<100	<200	<100
Benzene	<5	4.7	<5	<5	<5	8.3	<5
Carbon tetrachloride	<5	<5	<5	<5	<5	<10	<5
Chlorobenzene	<5	6.6	<5	<5	<5	21	<5
1,2-Dichloroethane	<5	<5	<5	<5	<5	<10	<5
1,1,1-Trichloroethane	<5	3.1	<5	<5	<5	7.6	<5
1,1-Dichloroethane	<5	4.8	<5	<5	<5	15	<5
1,1,2-Trichloroethane	<5	<5	<5	<5	<5	<10	<5
1,1,2,2-Tetrachloroethane	<10	<10	<10	<10	<10	19	<10
Chloroethane	<10	<10	<10	<10	<10	<20	<10
2-Chloroethyl vinyl ether	<10	<10	<10	<10	<10	<20	<10
Chloroform	<5	12	<5	<5	<5	<10	<5
1,1-Dichloroethylene	<5	<5	<5	<5	<5	<10	<5
1,2-trans-Dichloroethylene	<5	91	<5	<5	<5	200	<5
1,2-Dichloropropane	<10	9.4	<10	<10	<10	<20	<10
1,3-Dichloropropylene	<5	<5	<5	<5	<5	<10	<5
Ethylbenzene	<5	<5	<5	<5	<5	<10	<5
Methylene chloride	<5	<5	<5	<5	<5	<10	<5
Methyl chloride	<10	<10	<10	<10	<10	<20	<10
Methyl bromide	<10	<10	<10	<10	<10	<20	<10
Bromoform	<10	<10	<10	<10	<10	<20	<10
Dichlorobromomethane	<5	<5	<5	<5	<5	<10	<5
Trichlorofluoromethane	<10	<10	<10	<10	<10	<20	<10
Dichlorodifluoromethane	<10	<10	<10	<10	<10	<20	<10
Chlorodibromomethane	<5	<5	<5	<5	<5	<10	<5
Tetrachloroethylene	<5	<5	<5	<5	<5	<10	<5
Toluene	<5	4.1	<5	<5	<5	53	<5
Trichloroethylene	<5	79	<5	<5	<5	230	<5
Vinyl chloride	<10	16	<10	<10	<10	<20	<10
Acetone	<5	30	<5	<5	<5	2074	<5
2-Butanone	<5	<5	<5	<5	<5	7.5	<5
Carbon disulfide	<5	<5	<5	<5	<5	<10	<5
2-Hexanone	<5	<5	<5	<5	<5	<10	<5
4-Methyl-2-pentanone	<5	<5	<5	<5	<5	<10	<5
Styrene	<5	<5	<5	<5	<5	<10	<5
Sinyl acetate	<5	<5	<5	<5	<5	<10	<5
Total xylenes	<5	<5	<5	<5	<5	<10	<5

Table 17. Summary of Surface Water Quality Data, 1983-1985, UOP Site, East Rutherford, New Jersey.

Sampling Station:	ST-5	ST-6		ST-7		ST-8
Volatile Organic Compounds [Units: ug/L (ppb)] Date Sampled:	11/83	11/83	1/85	1/85	1/85 **	1/85
Acrolein	<100	<100	<100	<100	<100	<100
Acrylonitrile	<100	<100	<100	<100	<100	<100
Benzene	<5	<5	<5	<5	<5	<5
Carbon tetrachloride	<5	<5	<5	<5	<5	<5
Chlorobenzene	<5	<5	<5	<5	<5	<5
1,2-Dichloroethane	<5	<5	<5	<5	<5	<5
1,1,1-Trichloroethane	<5	<5	4.1	3.7	4.4	<5
1,1-Dichloroethane	<5	<5	<5	<5	<5	<5
1,1,2-Trichloroethane	<5	<5	<5	<5	<5	<5
1,1,2,2-Tetrachloroethane	<10	<10	<10	2.8	3.5	<10
Chloroethane	<10	<10	<10	<10	<10	<10
2-Chloroethyl vinyl ether	<10	<10	<10	<10	<10	<10
Chloroform	<5	<5	<5	<5	<5	<5
1,1-Dichloroethylene	<5	<5	<5	<5	<5	<5
1,2-trans-Dichloroethylene	<5	<5	4.5	19	23	<5
1,2-Dichloropropane	<10	<10	<10	<10	<10	<10
1,3-Dichloropropylene	<5	<5	<5	<5	<5	<5
Ethylbenzene	<5	<5	<5	<5	<5	<5
Methylene chloride	<5	470	16	19	17	18
Methyl chloride	<10	<10	<10	<10	<10	<10
Methyl bromide	<10	<10	<10	<10	<10	<10
Bromoform	<10	<10	<10	<10	<10	<10
Dichlorobromomethane	<5	<5	<5	<5	<5	<5
Trichlorofluoromethane	<10	<10	<10	<10	<10	<10
Dichlorodifluorometnane	<10	<10	<10	<10	<10	<10
Chlorodibromomethane	<5	<5	<5	<5	<5	<5
Tetrachloroethylene	<5	<5	<5	<5	<5	<5
Toluene	<5	<5	<5	<5	<5	<5
Trichloroethylene	<5	<5	3.8	19	22	<5
Vinyl chloride	<10	<10	<10	<10	<10	<10
Acetone	<5	<5	<5	<5	<5	<5
2-Butanone	<5	<5	<5	<5	<5	<5
Carbon disulfide	<5	<5	<5	<5	<5	<5
2-Hexanone	<5	<5	<5	<5	<5	<5
4-Methyl-2-pentanone	<5	<5	<5	<5	<5	<5
Stryene	<5	<5	<5	<5	<5	<5
Vinyl acetate	<5	<5	<5	<5	<5	<5
Total xylenes	<5	<5	<5	<5	<5	<5

Table 17. Summary of Surface Water Quality Data, 1983-1985, UOP Site, East Rutherford, New Jersey.

Sampling Station:	ST-1		ST-2	ST-3			ST-4
Base/Neutral Organic Compounds [Units: ug/L (ppb)] Date Sampled:	11/83	1/85	11/83	11/83	11/83 **	1/85	11/83
Acenapthene	<10	<10	<10	<10	<10	<10	<10
Benzidine	<40	<40	<40	<40	<40	<40	<40
1,2,4-Trichlorobenzene	<10	<10	<10	<10	<10	<10	<10
Hexachlorobenzene	<10	<10	<10	<10	<10	<10	<10
Hexachloroethane	<10	<10	<10	<10	<10	<10	<10
bis(2-Chloroethyl)ether	<10	<10	<10	<10	<10	<10	<10
2-Chloronapthalene	<10	<10	<10	<10	<10	<10	<10
1,2-Dichlorobenzene	8.0	36	<10	<10	<10	190	<10
1,3-Dichlorobenzene	<10	<10	<10	<10	<10	<10	<10
1,4-Dichlorobenzene	<10	<10	<10	<10	<10	4.1	<10
3,3'-Dichlorobenzidine	<20	<20	<20	<20	<20	<20	<20
2,4-Dinitrotoluene	<20	<20	<20	<20	<20	<20	<20
2,6-Dinitrotoluene	<20	<20	<20	<20	<20	<20	<20
1,2-Diphenylhyrazine (as azobenzene)	<20	<20	<20	<20	<20	45	<20
Fluoranthene	<10	<10	<10	<10	<10	<10	<10
4-Chlorophenyl phenyl ether	<10	<10	<10	<10	<10	<10	<10
4-Bromophenyl phenyl ether	<10	<10	<10	<10	<10	<10	<10
bis (2-Chloroisopropyl) ether	<20	<20	<20	<20	<20	<20	<20
bis (2-Chloroethoxy) methane	<20	<20	<20	<20	<20	<20	<20
Hexachlorobutadine	<10	<10	<10	<10	<10	<10	<10
Hexachlorocyclopentadiene	<10	<10	<10	<10	<10	<10	<10
Isophorone	<10	<10	<10	<10	<10	<10	<10
Naphthalene	<10	<10	<10	<10	<10	<10	<10
Nitrobenzene	<10	<10	<10	<10	<10	<10	<10
N-nitrosodiphenylamine	<10	<10	<10	<10	<10	<10	<10
N-nitrosodi-n-propylamine	<10	<10	<10	<10	<10	<10	<10
bis (2-Ethylhexyl) phthalate	8.0	6.2	<10	<10	<10	<10	<10
Butyl benzyl phthalate	<10	<10	<10	<10	<10	<10	<10
di-n-Butyl phthalate	<10	<10	<10	<10	<10	<10	<10
di-n-Octyl phthalate	<10	<10	<10	<10	<10	<10	<10
Diethyl phthalate	<10	<10	<10	<10	<10	<10	<10
Dimethyl phthalate	<10	<10	<10	<10	<10	<10	<10
Benzo(a)anthracene	<10	<10	<10	<10	<10	<10	<10
Benzo(a)pyrene	<20	<20	<20	<20	<20	<20	<20
3,4-Benzofluoranthene	<20	<20	<20	<20	<20	<20	<20
Benzo(k)fluoranthene	<20	<20	<20	<20	<20	<20	<20
Chrysene	<20	<20	<20	<20	<20	<20	<20
Acenaphthylene	<10	<10	<10	<10	<10	<10	<10
Anthracene	<10	<10	<10	<10	<10	<10	<10
Benzo(ghi) perylene	<20	<20	<20	<20	<20	<20	<20
Fluorene	<10	<10	<10	<10	<10	<10	<10
Phenanthrene	<10	<10	<10	<10	<10	<10	<10
Dibenzo(a,h)anthracene	<20	<20	<20	<20	<20	<20	<20
Indeno(1,2,3-cd)pyrene	<20	<20	<20	<20	<20	<20	<20
Pyrene	<10	<10	<10	<10	<10	<10	<10

Table 17. Summary of Surface Water Quality Data, 1983-1985, UOP Site, East Rutherford, New Jersey.

Sampling Station:	ST-5	ST-6		ST-7		ST-8
Base/Neutral Organic Compounds [Units: ug/L (ppb)] Date Sampled:	11/83	11/83	1/85	1/85	1/85 **	1/85
Acenapthene	<10	<10	<10	<10	<10	<10
Benzidine	<40	<40	<40	<40	<40	<40
1,2,4-Trichlorobenzene	<10	<10	<10	<10	<10	<10
Hexachlorobenzene	<10	<10	<10	<10	<10	<10
Hexachloroethane	<10	<10	<10	<10	<10	<10
bis(2-Chloroethyl)ether	<10	<10	<10	<10	<10	<10
2-Chloronapthalene	<10	<10	<10	<10	<10	<10
1,2-Dichlorobenzene	<10	<10	<10	2.1	<10	<10
1,3-Dichlorobenzene	<10	<10	<10	<10	<10	<10
1,4-Dichlorobenzene	<10	<10	<10	<10	<10	<10
3,3'-Dichlorobenzidine	<20	<20	<20	<20	<20	<20
2,4-Dinitrotoluene	<20	<20	<20	<20	<20	<20
2,6-Dinitrotoluene	<20	<20	<20	<20	<20	<20
1,2-Diphenylhyrazine (as azobenzene)	<20	<20	<20	<20	<20	<20
Fluoranthene	<10	<10	<10	<10	<10	<10
4-Chlorophenyl phenyl ether	<10	<10	<10	<10	<10	<10
4-Bromophenyl phenyl ether	<10	<10	<10	<10	<10	<10
bis (2-Chloroisopropyl) ether	<20	<20	<20	<20	<20	<20
bis (2-Chloroethoxy) methane	<20	<20	<20	<20	<20	<20
Hexachlorobutadine	<10	<10	<10	<10	<10	<10
Hexachlorocyclopentadiene	<10	<10	<10	<10	<10	<10
Isophorone	<10	<10	<10	<10	<10	<10
Naphthalene	<10	<10	<10	<10	<10	<10
Nitrobenzene	<10	<10	<10	<10	<10	<10
N-nitrosodiphenylamine	<10	<10	<10	<10	<10	<10
N-nitrosodi-n-propylamine	<10	<10	<10	<10	<10	<10
bis (2-Ethylhexyl) phthalate	<10	<10	<10	<10	<10	5.7
Butyl benzyl phthalate	<10	<10	<10	<10	<10	<10
di-n-Butyl phthalate	<10	<10	<10	<10	<10	<10
di-n-Octyl phthalate	<10	<10	<10	<10	<10	<10
Diethyl phthalate	<10	<10	<10	<10	<10	<10
Dimethyl phthalate	<10	<10	<10	<10	<10	<10
Benzo(a)anthracene	<10	<10	<10	<10	<10	<10
Benzo(a)pyrene	<20	<20	<20	<20	<20	<20
3,4-Benzofluoranthene	<20	<20	<20	<20	<20	<20
Benzo(k)fluoranthene	<20	<20	<20	<20	<20	<20
Chrysene	<20	<20	<20	<20	<20	<20
Acenaphthylene	<10	<10	<10	<10	<10	<10
Anthracene	<10	<10	<10	<10	<10	<10
Benzo(ghi) perylene	<20	<20	<20	<20	<20	<20
Fluorene	<10	<10	<10	<10	<10	<10
Phenanthrene	<10	<10	<10	<10	<10	<10
Dibenzo(a,h)anthracene	<20	<20	<20	<20	<20	<20
Indeno(1,2,3-cd)pyrene	<20	<20	<20	<20	<20	<20
Pyrene	<10	<10	<10	<10	<10	<10

Table 17. Summary of Surface Water Quality Data, 1983-1985, UOP Site, East Rutherford, New Jersey.

Sampling Station:	ST-1		ST-2	ST-3			ST-4
Acid Extractable Organic Compounds [Units: ug/L (ppb)] Date Sampled:	11/83	1/85	11/83	11/83	11/83 **	1/85	11/83
2,4,6-Trichlorophenol	<10	NA	<10	<10	<10	NA	<10
p-Chloro-m-cresol	<10	NA	<10	<10	<10	NA	<10
2-Chlorophenol	<10	NA	<10	<10	<10	NA	<10
2,4-Dichlorophenol	<10	NA	<10	<10	<10	NA	<10
2,4-Dimethylphenol	<10	NA	<10	<10	<10	NA	<10
2-Nitrophenol	<20	NA	<20	<20	<20	NA	<20
4-Nitrophenol	<50	NA	<50	<50	<50	NA	<50
2,4-Dinitrophenol	<50	NA	<50	<50	<50	NA	<50
2,6-Dinitro-o-cresol	<20	NA	<20	<20	<20	NA	<20
Pentachlorophenol	<10	NA	<10	<10	<10	NA	<10
Phenol	<10	NA	<10	<10	<10	NA	<10

Sampling Station:	ST-5	ST-6		ST-7		ST-8
Acid Extractable Organic Compounds [Units: ug/L (ppb)] Date Sampled:	11/83	11/83	1/85	1/85	1/85 **	1/85
2,4,6-Trichlorophenol	<10	<10	<10	NA	NA	NA
p-Chloro-m-cresol	<10	<10	<10	NA	NA	NA
2-chlorophenol	<10	<10	<10	NA	NA	NA
2,4-dichlorophenol	<10	<10	<10	NA	NA	NA
2,4-dimethylphenol	<10	<10	<10	NA	NA	NA
2-Nitrophenol	<20	<20	<20	NA	NA	NA
4-Nitrophenol	<50	<50	<50	NA	NA	NA
2,4-Dinitrophenol	<50	<50	<50	NA	NA	NA
2,6-Dinitro-o-cresol	<20	<20	<20	NA	NA	NA
Pentachlorophenol	<10	<10	<10	NA	NA	NA
Phenol	<10	<10	<10	NA	NA	NA

Table 17. Summary of Surface Water Quality Data, 1983-1985, UOP Site, East Rutherford, New Jersey.

Sampling Station:	ST-1	ST-2	ST-3		ST-4	ST-5	ST-6
Non-Priority Pollutant Hazardous Compounds				**			
[Units: ug/L (ppb)] Date Sampled:	11/83	11/83	11/83	11/83	11/83	11/83	11/83
Benzoic acid	<100	<100	<100	<100	<100	<100	<100
2-Methylphenol	<5	<5	<5	<5	<5	<5	<5
4-Methylphenol	<5	<5	<5	<5	<5	<5	<5
2,4,5-Trichlorophenol	<100	<100	<100	<100	<100	<100	<100
Aniline	<5	<5	<5	<5	<5	<5	<5
Benzyl alcohol	<20	<20	<20	<20	<20	<20	<20
4-Chloroaniline	<50	<50	<50	<50	<50	<50	<50
Dibenzofuran	<10	<10	<10	<10	<10	<10	<10
2-Methylnapthalene	<20	<20	<20	<20	<20	<20	<20
2-Nitroaniline	<100	<100	<100	<100	<100	<100	<100
3-Nitroaniline	<100	<100	<100	<100	<100	<100	<100
4-Nitroaniline	<100	<100	<100	<100	<100	<100	<100

Sampling Station:	ST-1	ST-3	ST-6	ST-7		ST-8
Priority Pollutant Pesticides					**	
[Units: ug/L (ppb)] Date Sampled:	1/85	1/85	1/85	1/85	1/85	1/85
Aldrin	<10	<10	<10	<10	<10	<10
B-BHC	<10	<10	<10	<10	<10	<10
D-BHC	<10	<10	<10	<10	<10	<10
Chlordane	<100	<100	<100	<100	<100	<100
4,4'-DDD	<10	<10	<10	<10	<10	<10
4,4'-DDE	<10	<10	<10	<10	<10	<10
4,4'-DDT	<10	<10	<10	<10	<10	<10
Dieldrin	<10	<10	<10	<10	<10	<10
Endosulfan sulfate	<20	<20	<20	<20	<20	<20
Endrin aldehyde	<20	<20	<20	<20	<20	<20
Heptachlor	<10	<10	<10	<10	<10	<10
Heptachlor epoxide	<10	<10	<10	<10	<10	<10
PCB	<50	<50	<50	<50	<50	<50
Toxaphene	<500	<500	<500	<500	<500	<500

Table 17. Summary of Surface Water Quality Data, 1983-1985, UOP Site, East Rutherford, New Jersey.

Sampling Station:	ST-1		ST-2	ST-3			ST-4
Other Constituents [Units: mg/L (ppm)] Date Sampled:	11/83	1/85	11/83	11/83	11/83 **	1/85	11/83
Mercury as Hg	NA	<0.0005	NA	NA	NA	<0.0005	NA
Iron as Fe	NA	0.72	NA	NA	NA	<0.05	NA
Manganese as Mn	0.45	1.3	0.037	0.46	0.46	3.1	0.34
Lead as Pb	0.12	0.024	0.090	0.096	0.07	0.048	0.080
Chromium as Cr	<0.005	<0.02	0.005	<0.005	<0.005	<0.02	0.012
Cadmium as Cd	0.004	0.001	0.008	0.004	0.003	0.002	0.002
Cyanide as CN	<0.02	<0.02	<0.02	<0.02	0.02	0.03	<0.02
Arsenic as As	<0.002	0.012	<0.002	<0.002	0.002	<0.002	<0.002
Zinc as Zn	0.07	0.10	0.08	0.07	0.07	0.04	0.06
Phenol as phenol	0.025	0.2	0.021	0.019	0.016	2.2	0.02
Total organic carbon	NA	40	NA	NA	NA	48	NA
pH	5.7	NA	6.00	5.9	5.9	NA	6.00
Specific cond. (umhos/cm)	3750	NA	4000	3800	4000	NA	5000

Sampling Station:	ST-5	ST-6		ST-7		ST-8
Other Constituents [Units: mg/L (ppm)] Date Sampled:	11/83	11/83	1/85	1/85	1/85 **	1/85
Mercury as Hg	NA	NA	<0.0005	<0.0005	<0.0005	<0.0005
Iron as Fe	NA	NA	<0.05	0.15	0.14	0.09
Manganese as Mn	0.24	0.24	0.90	2.8	2.8	0.52
Lead as Pb	0.09	0.07	0.012	<0.005	0.015	0.018
Chromium as Cr	<0.005	<0.005	<0.02	<0.02	<0.02	<0.02
Cadmium as Cd	0.014	0.008	<0.001	<0.001	<0.001	<0.001
Cyanide as CN	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Arsenic as As	<0.002	0.002	<0.002	<0.002	<0.002	<0.002
Zinc as Zn	0.05	0.05	0.09	0.11	0.12	0.07
Phenol as phenol	0.012	0.013	0.004	0.016	0.012	0.006
Total organic carbon	NA	NA	61	30	25	50
pH	5.9	NA	NA	NA	NA	NA
Specific cond. (umhos/cm)	4750	NA	NA	NA	NA	NA

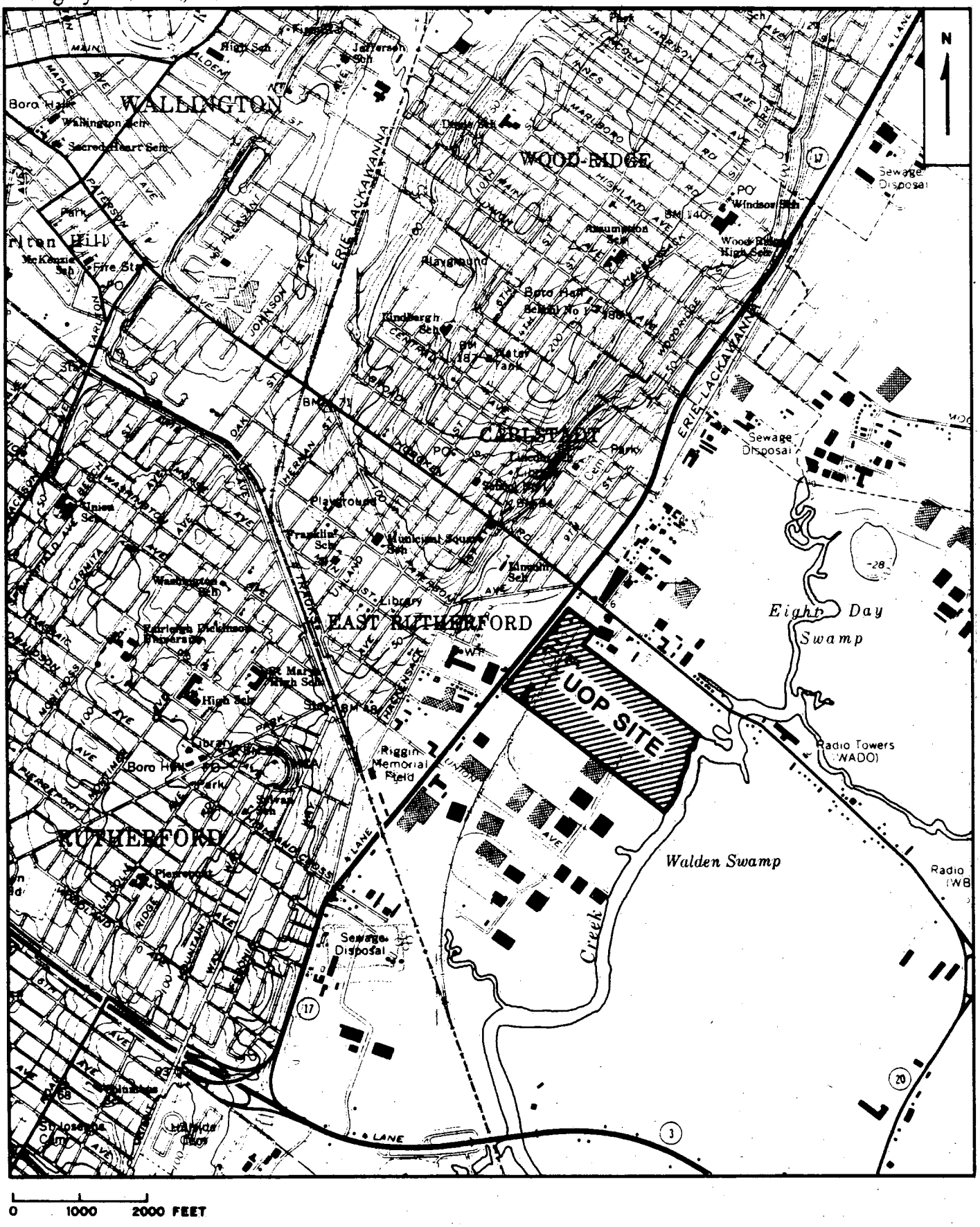


FIGURE 1.

LOCATION OF UOP INC. SITE, EAST RUTHERFORD, NEW JERSEY.

EXPLANATION

- B6 ▲ BORING LOCATION AND DESIGNATION, 1983-1984
- B1-1 □ BORING LOCATION AND DESIGNATION, 1986
- 151 ● WELL LOCATION AND DESIGNATION, 1983-1986
- 1 ■ STAFF GAUGE LOCATION
- AREA 1A STUDY AREA DESIGNATION AND BOUNDARIES
- A — A' LINE OF GEOLOGIC CROSS SECTION

HOBOKEN ROAD

AREA 4

AREA 1

AREA 1A

AREA 2

AREA 3

OFFSITE SURFACE WATER

CONRAIL

BERRY CREEK

DENSE VEGETATION

LEAD B1-8 62 346

LEAD B1A-1 LEAD B1A-2 LEAD B1A-3 LEAD B1A-4 LEAD B1A-5 LEAD B1A-6 70 255 LEAD B1A-7 LEAD B1A-8 LEAD 31 902

LEAD B5-1 LEAD B5-2 151 24 LEAD B5-3 233 20 LEAD B5-4 71 336 LEAD B5-5 LEAD B5-6 43 42 LEAD B5-7 LEAD B5-8 LEAD B5-9 LEAD B5-10 67 112 LEAD B5-11 1850 17 LEAD B5-12 1730 643 LEAD B5-13 667 1090

NOTES:
DASHED CONTOURS INDICATE THAT GROUND IS OBSCURED BY DENSE VEGETATION — THESE AREAS DO NOT CONFORM TO NATIONAL MAP ACCURACY STANDARDS

150 0 50 100 150 300

DATE OF PHOTOGRAPH: 8/16/83 CONTOUR INTERVAL: 2 FT

2500 - FOOT GRID BASED ON THE NEW JERSEY STATE PLANE COORDINATE SYSTEM

VERTICAL DATUM: **** VERTICAL DATUM OF 1929

LOCATIONS OF WELLS, SOIL BORINGS, AND STUDY AREAS

UOP INC. SITE

EAST RUTHERFORD, NEW JERSEY

FIGURE 2

GERAGHTY & MILLER, INC
Ground Water Consultants

AREA 1
AREA 1A
AREA 2
AREA 3
AREA 4
AREA 5

100/*
129/*
7,293/13,170
C-12,000
B1-2
B1-3
578/63,000
C-63,000
B1-1
15,000/3,710
A-14,000
B1-4
73/9,800
B-7,900
5/89
B1-5
<100/*
B1-6
6/187
100/*
(<200)(<200)
59/66,600
X-49,000
*/126
B1-7
B1-9
B1-8
50/85
536/*
82/16,650
A-15,000
B1A-1
190,000/186,200
X-160,000
B1A-3
B1A-2
90,650/524,600
TC-230,000
B1A-4
980,000/1,747,000
T-1,600,000
B1A-7
21/9
B1A-5
133,100/21,410
T-91,000
B1A-6
74/17,130
B1A-8
7/4,049
A-3,300
70,680/67
X-39,000
B2-1
<100/*
*/25,000
T-15,000
*/8,234
T-4,000
260
2,360/336
A-2,300
B2-2
B2-5
B2-6
*/29
*/11
B2-7
92/6,030
T-4,800
*/33,800
B-33,000
B2-3
B2-4
B2-8
38/119
*/2,108,000
T-2,060,000
(33,790)
M-33,000
B2-9
<100/*
*/10
969/627
A-950
B2-10
94/*
(<200)
103/1,436
C-670
B5-2
19/*
<100/*
B5-3
592/17,960
T-17,000
(<200)(240)
B5-4
554/775
A-680
37/4,064
A-4,000
B5-1
160/992
A-750
7/1,517
A-1,100
B5-7
B5-10
B5-8
65/6
B5-9
4/300
B5-6
38/13
19/*
<100/*
B5-11
54/148
B5-12
2/501
B5-13
87/133
99/195
B5-5
<100/*
(<200)(<550)
(60,940)
(230)
X-35,000
DENSE VEGETATION
CONRAIL
OFFSITE SURFACE WATER

EXPLANATION

- MONITORING WELL LOCATION AND DESIGNATION
  - S,I SHALLOW
  - D DEEP
- STAFF GAUGE LOCATION AND DESIGNATION
- SOIL BORING LOCATIONS AND DESIGNATIONS
- 103/1,436 TOTAL CONCENTRATION OF VOLATILE ORGANIC COMPOUNDS (ug/kg) IN
  - SATURATED SOIL SAMPLE
  - UNSATURATED SOIL SAMPLE
- C-670 COMPOUND IN HIGHEST CONCENTRATION IS SHOWN FOR EACH LOCATION. CONCENTRATION MUST BE ABOVE 500 ug/kg TO BE LISTED.
  - A - ACETONE
  - B - BENZENE
  - C - CHLOROBENZENE
  - M - METHYLENE CHLORIDE
  - T - TOLUENE
  - TC - 1,1,2,2-TETRACHLOROETHANE
  - X - XYLENE
- * NO SAMPLE
- (<200)(240) NO DISTINCTION MADE BETWEEN SATURATED AND UNSATURATED SAMPLES

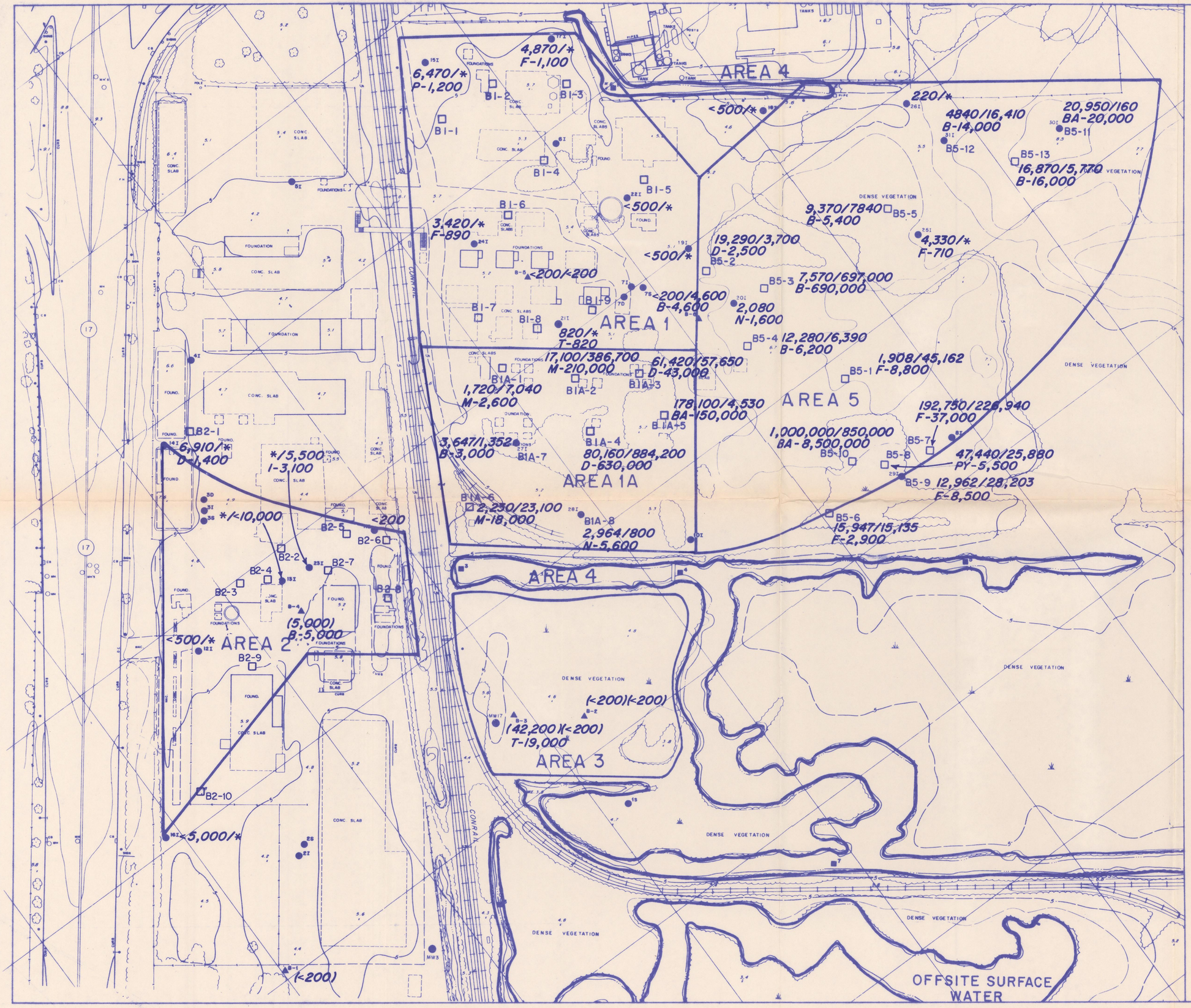
0 100 FEET

VOLATILE ORGANIC COMPOUNDS IN SOILS, 1983-1986

UOP INC.
EAST RUTHERFORD, NEW JERSEY

FIGURE 3

987-



GERAGHTY & MILLER, INC.
Ground-Water Consultants

EXPLANATION

- 31I — MONITORING WELL LOCATION AND DESIGNATION
  - S,I SHALLOW
  - D DEEP
- 2 — STAFF GAUGE LOCATION AND DESIGNATION
- B5-3 / B-5 — SOIL BORING LOCATIONS AND DESIGNATIONS
- 9,370/7840 — TOTAL CONCENTRATION OF VOLATILE ORGANIC COMPOUNDS (ug/kg) IN
  - SATURATED SOIL SAMPLE
  - UNSATURATED SOIL SAMPLE
- B-5,400 — COMPOUND IN HIGHEST CONCENTRATION IS SHOWN FOR EACH LOCATION. CONCENTRATION MUST BE ABOVE 500 ug/kg TO BE LISTED

B – BIS (2-ETHYL HEXYL) PHTHALATE
BA – BENZOIC ACID
D – 1,2 DICHLOROBENZENE
F – FLUORANTHENE
I – ISOPHORONE
M – 4-METHYLPHENOL
N – NAPTHALENE
NT – N-NITROSODIPHENYLAMINE
P – PHENANTHRENE
PY – PYRENE
T – 1,2,4 TRICHLOROBENZENE

* NO SAMPLE

(<200)(<200) NO DISTINCTION MADE BETWEEN SATURATED AND UNSATURATED SAMPLES

0 100 FEET

BASE/NEUTRAL AND ACID EXTRACTABLE ORGANIC COMPOUNDS IN SOILS, 1983-1986

UOP INC.
EAST RUTHERFORD, NEW JERSEY

FIGURE 4

987-

GERAGHTY & MILLER, INC.
Ground-Water Consultants

AREA 4

AREA 1

AREA 1A

AREA 5

AREA 2

AREA 3

B1-1 <800/<80
B1-2 <800/<800
B1-3
B1-4
B1-5
B1-6
B1-7
B1-8
B1-9
B1A-1 <800/<800
B1A-2
B1A-3 <1,600/<80
B1A-4 <1,600/<800
B1A-5 <1,600/<800
B1A-6 <1,600/<800
B1A-7 <80/<80
B1A-8 <80/<80
B2-1 197/19
B2-2 10,000/2,600
B2-3 *130
B2-4 *1,900
B2-5 *21,000
B2-6 *12,600
B2-7 1,000/4,800
B2-8 29/<80
B2-9 *14,900
B2-10 96/135
B5-1 450/310
B5-2 95,000/27,000
B5-3 18,000/160
B5-4 1,000/45
B5-5 17,000/9,800
B5-6 2,900/1,500
B5-7 480,000/38,000
B5-8 2,300/5,600
B5-9 1,500/<80
B5-10 4,200/500
B5-11 640/<800
B5-12 290/2,550
B5-13 236/151

DENSE VEGETATION

CONRAIL

OFFSITE SURFACE WATER

EXPLANATION

- 31I — MONITORING WELL LOCATION AND DESIGNATION
  - S,I SHALLOW
  - D DEEP
- 2 — STAFF GAUGE LOCATION AND DESIGNATION
- B5-3 — SOIL BORING LOCATION AND DESIGNATION
- 4,200/500 — TOTAL CONCENTRATION OF PCBS (ug/Kg) IN
  - SATURATED SOIL SAMPLE
  - UNSATURATED SOIL SAMPLE
- * — NO SAMPLE

0 100 FEET

POLYCHLORINATED BIPHENYLS (PCBs) IN SOILS, 1986

UOP INC.
EAST RUTHERFORD, NEW JERSEY

FIGURE 5

987-

GERAGHTY & MILLER, INC.
Ground-Water Consultants

EXPLANATION

- 31I — MONITORING WELL LOCATION AND DESIGNATION
  - S,I SHALLOW
  - D DEEP
- ■2 — STAFF GAUGE LOCATION AND DESIGNATION
- 3.30 — ELEVATION OF THE WATER TABLE, IN FEET ABOVE MEAN SEA LEVEL
- —3— GROUNDWATER ISOPOTENTIAL LINE IN FEET ABOVE MEAN SEA LEVEL; DASHED WHERE INFERRED
- ← APPROXIMATE DIRECTION OF GROUND-WATER FLOW

0 100 FEET

WATER-TABLE CONTOURS, NOVEMBER 4, 1986

UOP INC.
EAST RUTHERFORD, NEW JERSEY

FIGURE 6

987-

GERAGHTY & MILLER, INC.
Ground-Water Consultants

EXPLANATION

- 31I — MONITORING WELL LOCATION AND DESIGNATION
  - S,I SHALLOW
  - D DEEP
- 2 — STAFF GAUGE LOCATION AND DESIGNATION
- 4.33 — ELEVATION OF THE WATER TABLE, IN FEET ABOVE MEAN SEA LEVEL
- —4— GROUNDWATER ISOPOTENTIAL LINE IN FEET ABOVE MEAN SEA LEVEL, DASHED WHERE INFERRED
- ← APPROXIMATE DIRECTION OF GROUND-WATER FLOW

0 100 FEET

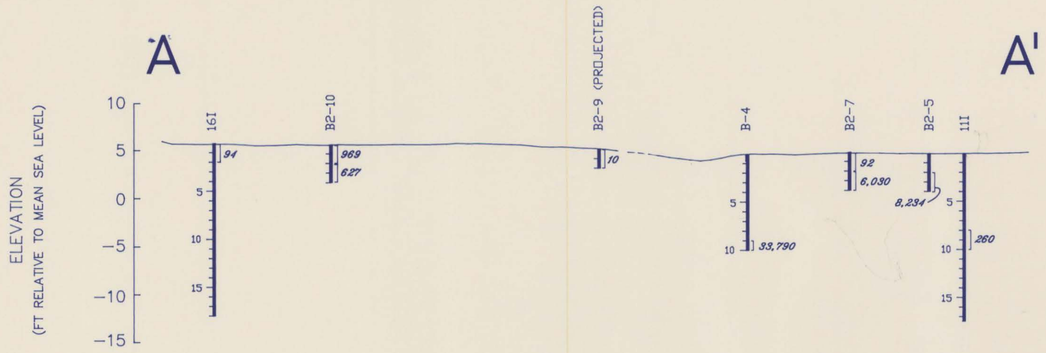
WATER-TABLE CONTOURS, DECEMBER 2, 1986

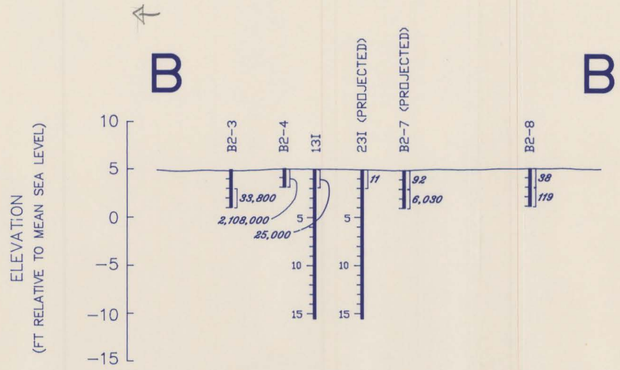
UOP INC.
EAST RUTHERFORD, NEW JERSEY

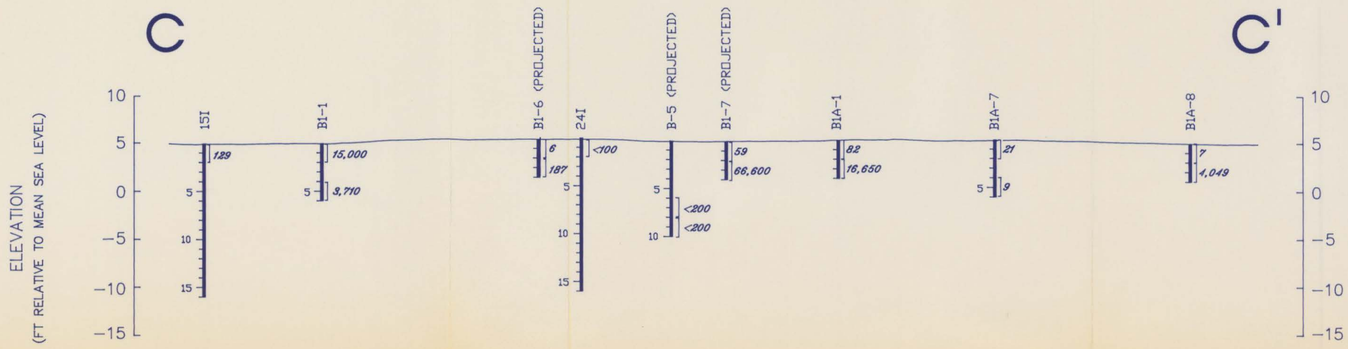
FIGURE 7

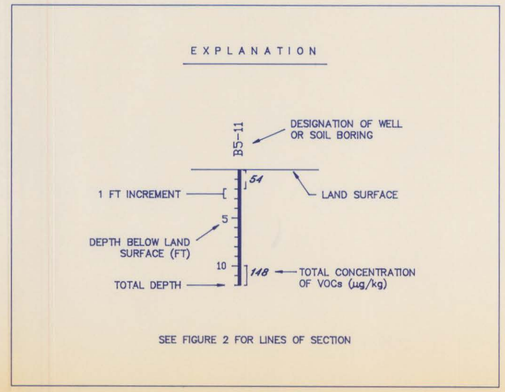
387-

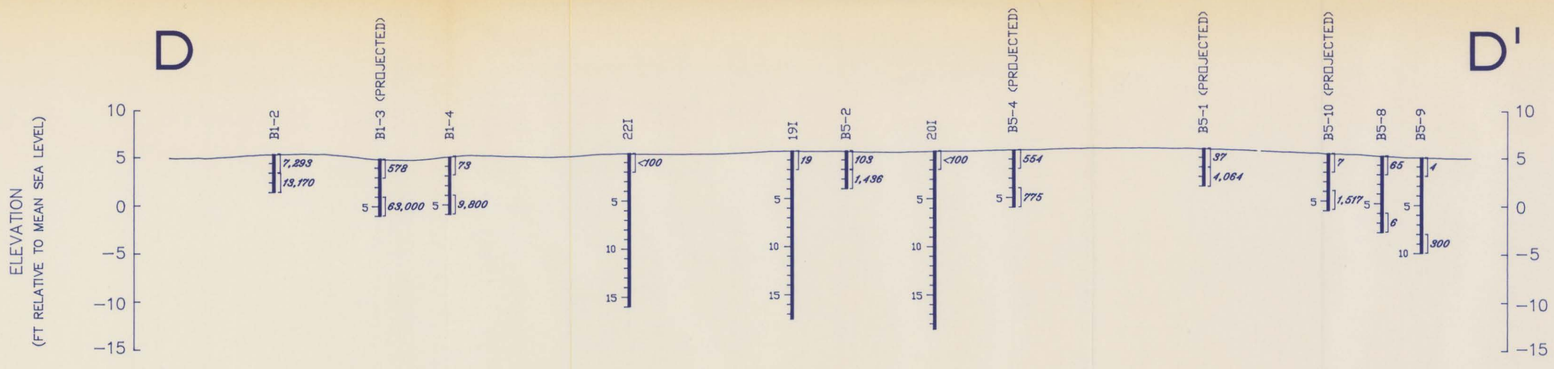
GERAGHTY & MILLER, INC. Ground-Water Consultants	COMPILED BY: R. Graham	FILE INDEX: NY695ER4-987	SCALE: shown	PREPARED FOR: UOP, INC. East Rutherford, New Jersey
	PREPARED BY: W.H. Ciclo	C.F. NAME: XSEC-B	DATE: 4-88	
	PROJECT MGR.: R. Graham			

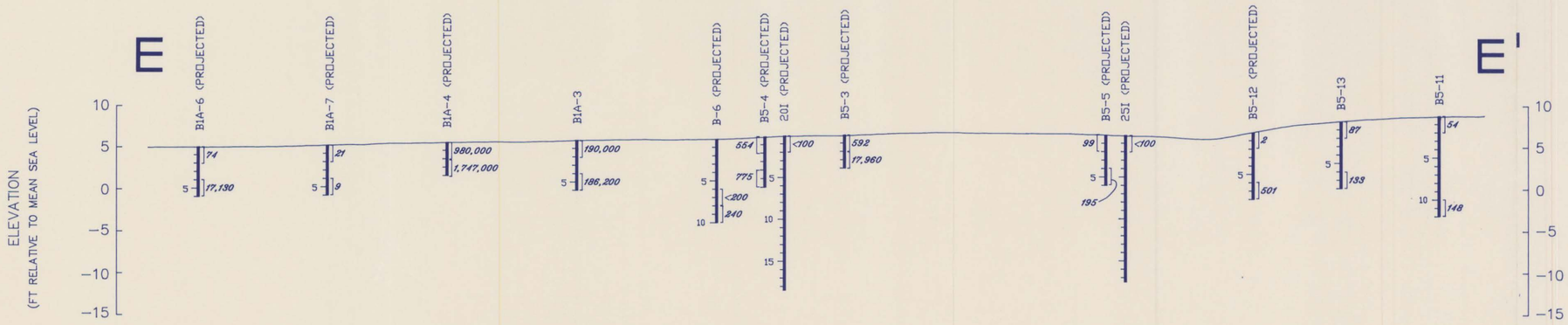












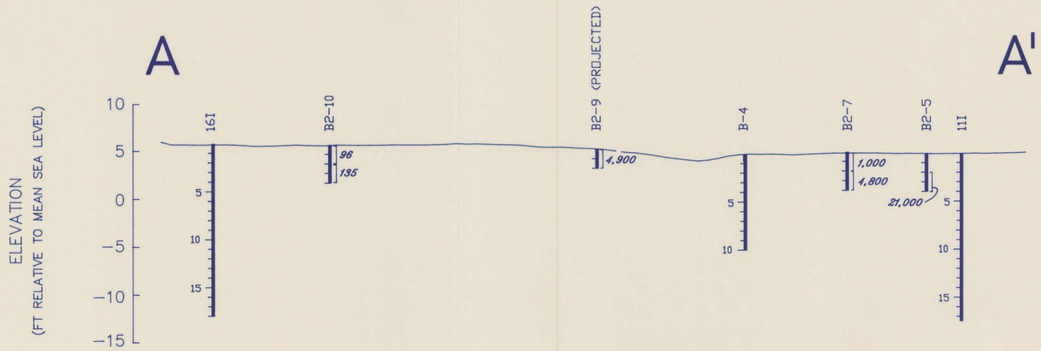
0 100 FT HORIZONTAL SCALE

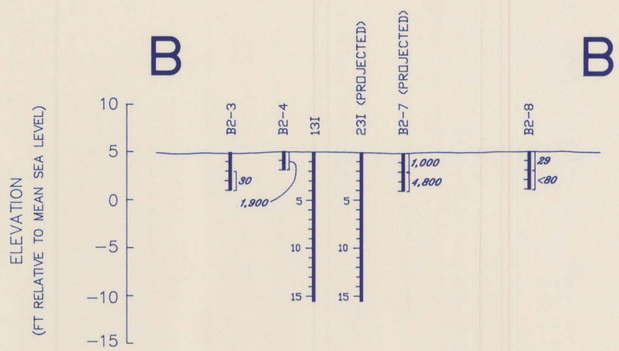
SUBJECT: TOTAL VOLATILE ORGANIC COMPOUNDS (VOCs) IN SOIL, 1983 -1986 DATA

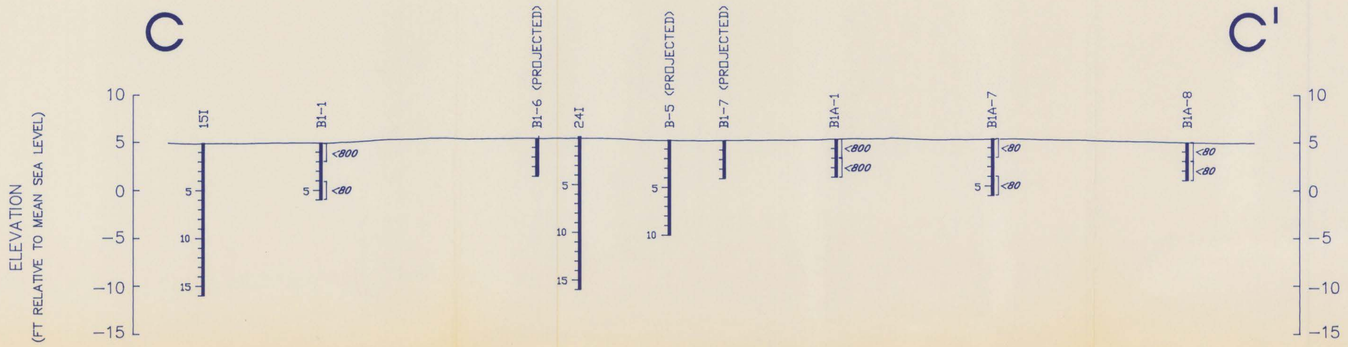
FIGURE 10

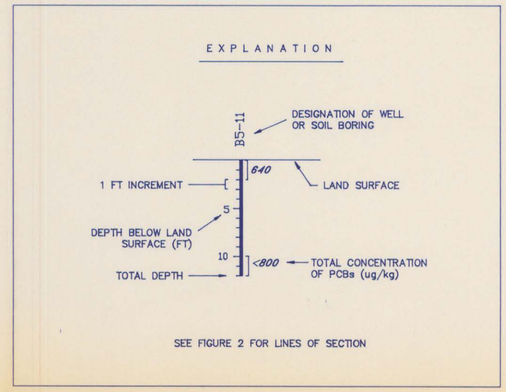
GERAGHTY & MILLER, INC.
Ground-Water Consultants

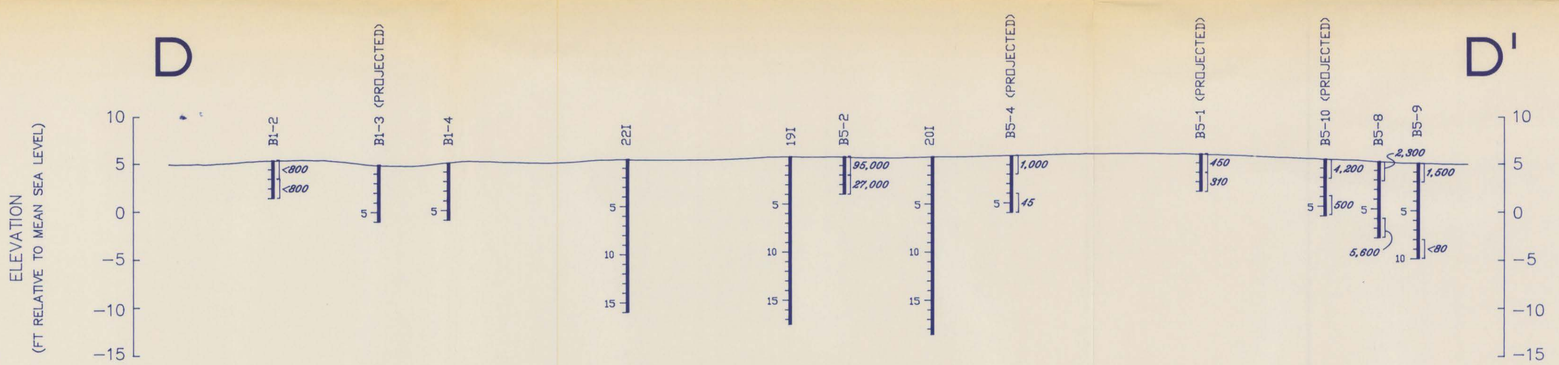
COMPILED BY: R. Graham	FILE INDEX: NY695ER4-987	SCALE: shown	PREPARED FOR: UOP, INC. East Rutherford, New Jersey	
PREPARED BY: W.H. Ciclo	C.F. NAME: PCB-1986	DATE: 4-88		
PROJECT MGR.: R. Graham				

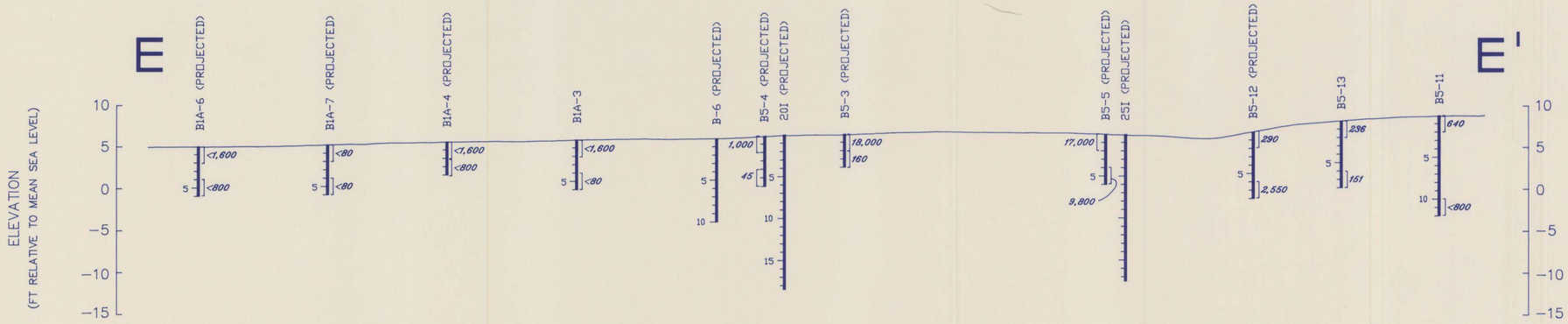












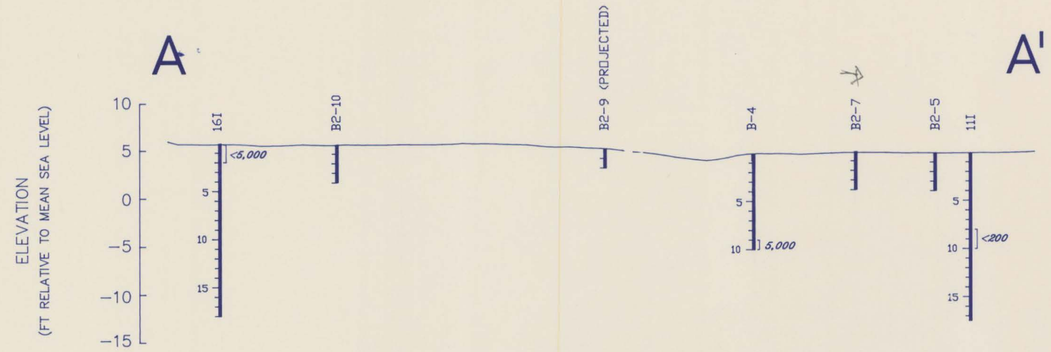
0 100 FT HORIZONTAL SCALE

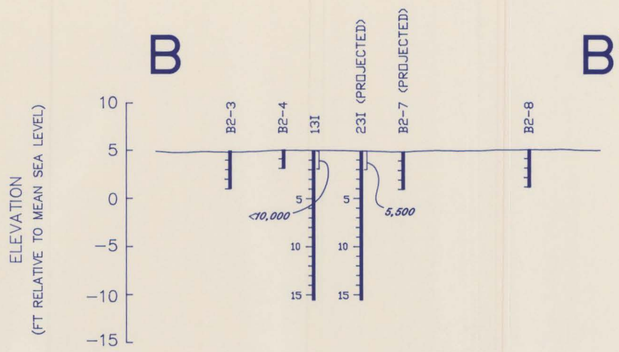
SUBJECT:

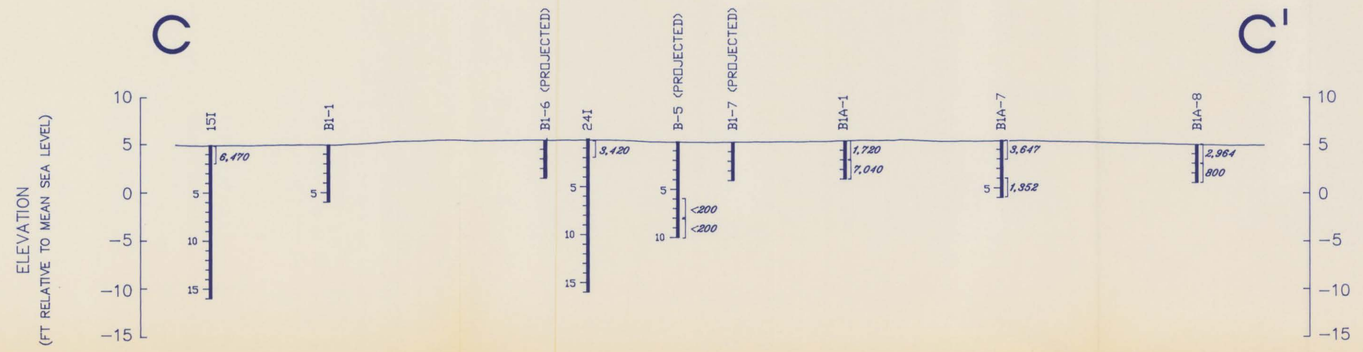
TOTAL POLYCHLORINATED BIPHENYLS (PCBs) IN SOIL, 1986 DATA

FIGURE 12

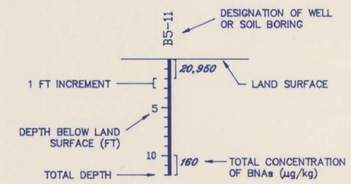
GERAGHTY & MILLER, INC. *Ground-Water Consultants*	COMPILED BY: R. Graham	FILE INDEX: NY695ER4-987	SCALE: shown	PREPARED FOR: UOP, INC. East Rutherford, New Jersey
	PREPARED BY: W.H. Ciclo	C.F. NAME: BNA-8386	DATE: 4-88	
	PROJECT MGR.: R. Graham			



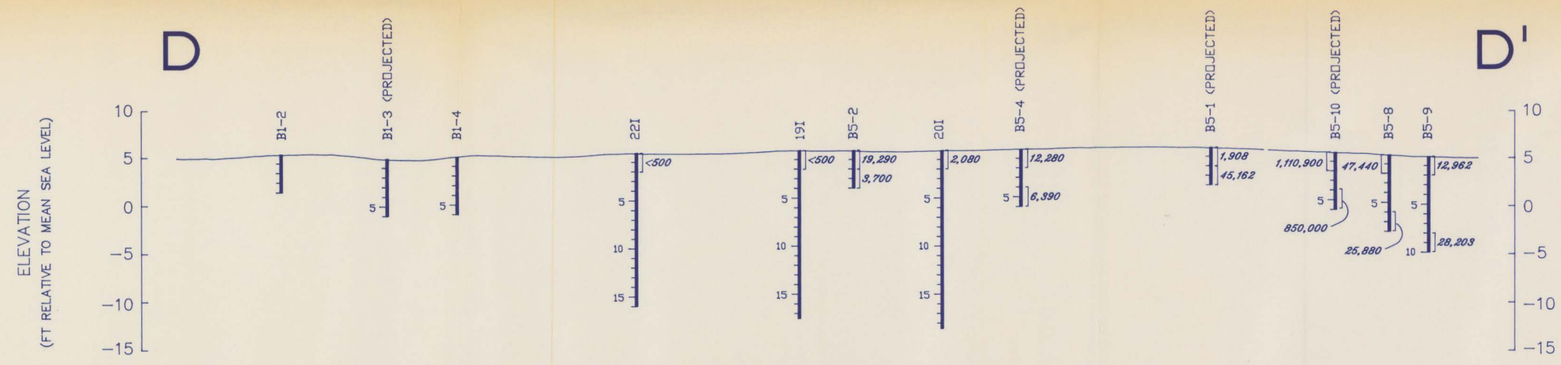


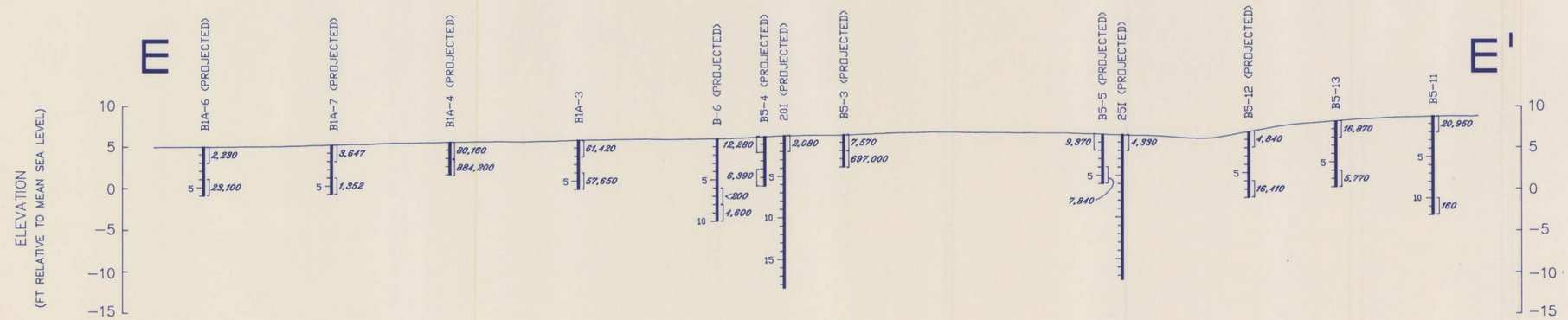


EXPLANATION



SEE FIGURE 2 FOR LINES OF SECTION





0 100 FT HORIZONTAL SCALE

SUBJECT:

TOTAL BASE/NEUTRAL AND ACID EXTRACTABLE ORGANIC COMPOUNDS (BNAs) IN SOIL, 1983 - 1986 DATA

FIGURE 11